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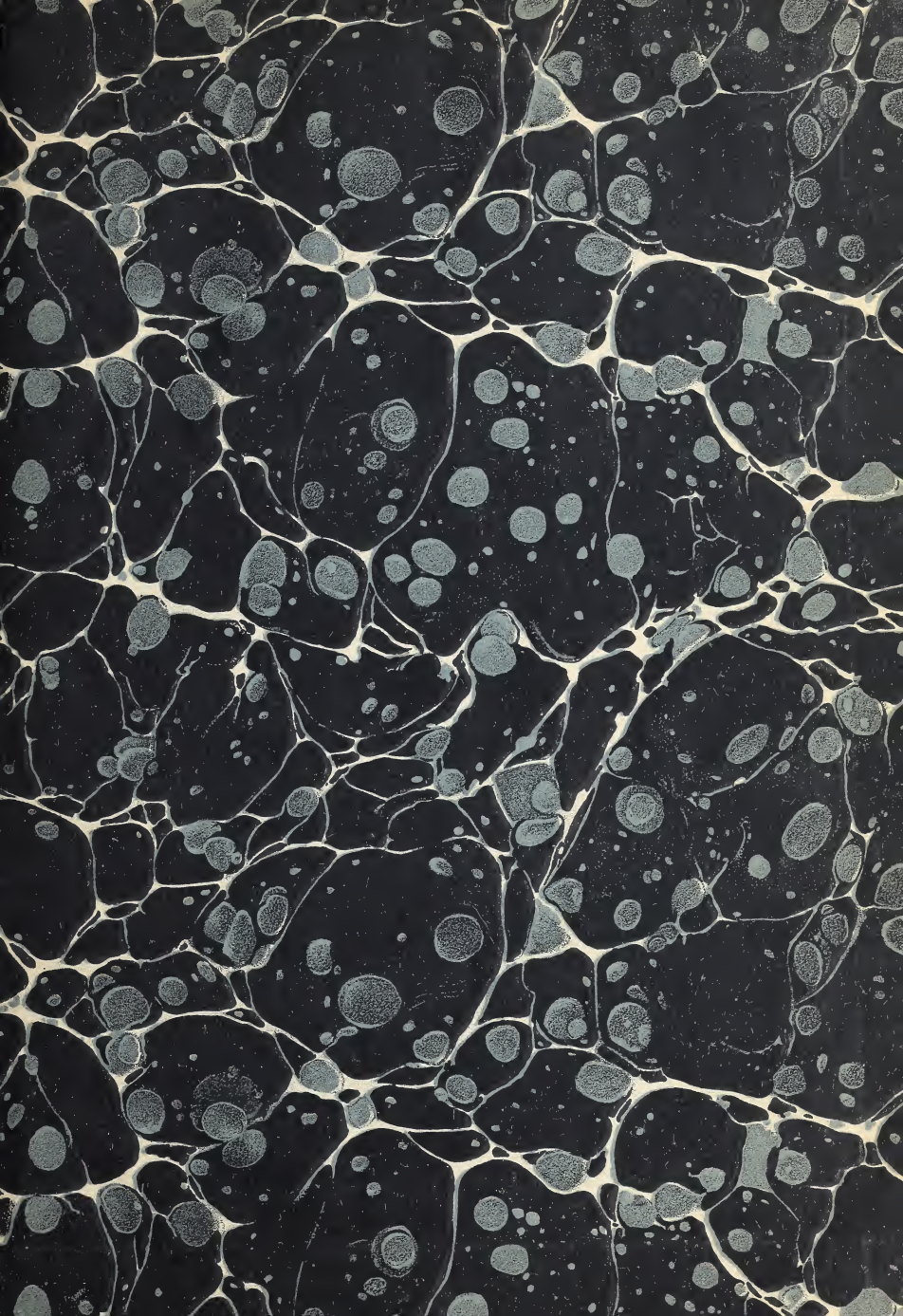
DEPARTMENT OF AGRICULTURE

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THE
A M E R I C A N
A G R I C U L T U R I S T ;

DESIGNED

TO IMPROVE THE PLANTER, THE FARMER, THE STOCK-BREEDER,
AND THE HORTICULTURIST.

AGRICULTURE IS THE MOST HEALTHY, THE MOST USEFUL, AND THE
MOST NOBLE EMPLOYMENT OF MAN.—*Washington.*

A B. ALLEN AND R. L. ALLEN, EDITORS.

VOLUME IX.



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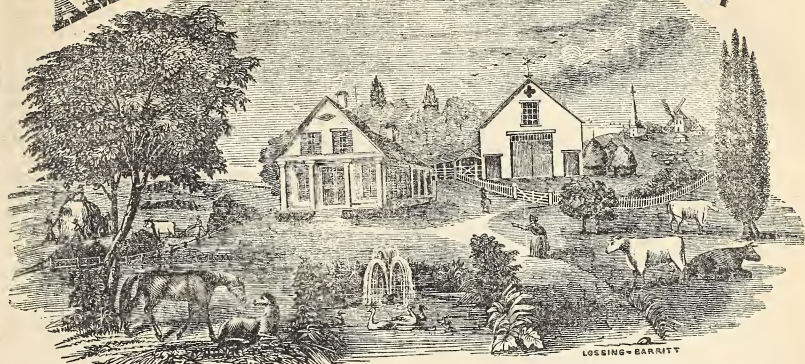
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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TO OUR READERS.

THROUGH occasional doubt and frequent discouragement, we have completed eight volumes of our Agricultural Journal. In this commencement of our ninth volume, we crave for a moment, your particular attention. We ask the farmers to look at their relative amount of intelligence in their own profession or pursuit, as compared with any other in the country, demanding an equal investigation and acquirement. What means are you employing to secure that attainment in the principles and practice of your art, which is essential to your highest success? These are important questions and they are worthy of a brief answer.

We believe the farmers are *not*, as a body, doing a tithe of what they should for the advancement of their individual or collective interests; and we further believe, *that the foundation of this apathy lies in their neglect to sustain and read the best Agricultural Journals.* Of the 20,000,000 of our inhabitants, more than three fourths of whom are engaged in agricultural and horticultural pursuits, and most of whom obtain their entire support from these avocations, *not one in two thousand, and we much doubt if there is one in three thousand, who subscribe for and read a purely agricultural paper!* Subtracting females and children from the mass, it will greatly diminish this enormous disproportion. Yet what other class of citizens would submit to such a general destitution? That our fathers subsisted without agricultural papers, is no satisfactory answer. They even lived without rail-roads, steam-engines, and not a few without hats, boots or breeches. Indians and Hottentots get along without them now; but the inquiry is not how much ignorance this pursuit will bear and yet be tolerated or kept alive, but how much knowledge the inquiring spirit of this age should incorporate with it.

How should a person know anything unless he is taught? Men are not born with knowledge, and even in instincts they are far behind the brute creation. A young alligator or duckling betakes itself to the water with the shell yet on its head; but what infant ever found its way to the mother's breast without the assistance of its nurse? How much less should he, instinctively or through his own unaided reason, in any successive stage of his existence, resort to the elaborate cultivation of the earth for a subsistence? Why does he manure and plow his field, sow his seed, and cultivate it afterwards, with any expectation of procuring food thereby? The reply to all this simply is, *he has been taught it.* How? Sometimes by precept, but generally by example. In the last instance, the lad stands by and sees his more experienced companion do a certain thing; in the former, he arrives at the same knowledge by reading or conversation. And what are the relative advantages of these two modes of learning?

A familiarity with the use of implements, seeds, crops, and the manual operations of the farm are much more readily and effectually, and therefore appropriately, learned by example. All other knowledge may be indifferently learned either by seeing, hearing, or reading.

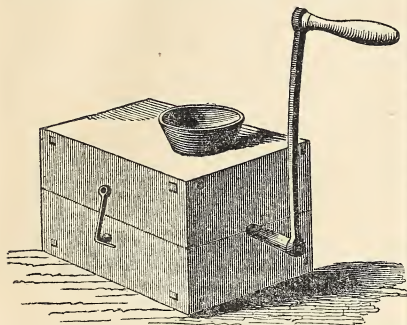
So that he learns his business rightly, it matters not how the farmer comes by his information. In seeing, we learn just what is before us and no more, and we may have a very ignorant, stupid, or faulty teacher; in reading, we may possibly have the same; but in the last case we have access to twenty, fifty, or even one hundred, in our best agricultural journals and books instead of a single oral teacher; and if he possesses any discrimination and judgment, he can try each by all the others, and if there be ignorance, stupidity, or error, he can thus readily detect it. He may have the recorded experience and accumulated knowledge of the world, condensed in a comparatively few volumes, arranged on his library shelves, within convenient reach of his easy chair; and the daily experiments and improvements of an experimenting and improving age, may be regularly brought to his door by the postman, in the best agricultural periodicals of the day. Can this be a bad, or even an indifferent mode of acquiring knowledge, in a science and art which combines no inconsiderable share of nearly all other sciences? *Yet this is book-farming*—a cant, unmeaning phrase, which ignorance deems worthy to provoke derision and contempt whenever uttered.

We take this bull by the horns and say, it is this very *book-farming*, which must be sought as the principal and almost only means of improvement in agriculture. What could one man, or one neighborhood, or even one State accomplish in this commendable career, were they to be shut out from all the world besides? From the bottom of our hearts, we pity the man, who scorns or neglects the teachings of the intelligent men, employed wherever the art of printing is known and practiced, in communicating reliable discoveries and improvement through the press. While stupidity scoffs, and jeers, it does not consider that nearly every particle of information it possesses, and has so long practiced for its own benefit, has been derived directly or indirectly from tradition or books, which are but different caskets to hold the same jewels, though the latter are by far the most safe and reliable. In reflecting on this *integrity*, or it may more appropriately be styled, *ingratitude*, we are reminded of the blunt but truthful remark of an eccentric friend, that a pig fills his maw with fruit or mast, without ever looking up to the tree which has furnished it.

—•••—
A GOOD TEMPER ESSENTIAL TO BREEDING ANIMALS.—Never breed from a bad tempered animal if you can possibly avoid it. Good or bad temper in animals is transmitted to their offspring with the same certainty that a good or bad loin or brisket may be, or coarse legs, head or horns. You cannot, therefore, be too careful on this point as well as all others in selecting your breeding animals. Many a person has been killed by bad tempered horses and bulls, and even females have occasionally done serious injury. We think agricultural society committees ought to take into consideration the temper of animals, as well as other good or bad points, before passing judgment upon them.

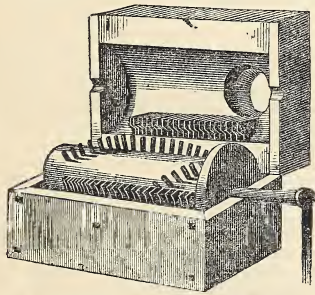
SAUSAGE CUTTER.

This is one of those minor improvements of the present day, which contribute largely to the comfort of individuals and families and the dispatch of a heretofore irksome job. By the aid of this simple contrivance, the meat, whether for a hash, mincepies or sausages, is placed in a hopper, and on turning a crank, which may be done by a child, the contents will be discharged from the opposite end, of any required fineness.



SAUSAGE CUTTER (SHUT).—FIG. 1.

This implement consists of an oblong box, 13 inches in length by about 8 inches square, with a cavity $5\frac{1}{2}$ inches diameter through the centre, and closed at each end. A hole on the top of one extremity for a small hopper, receives the meat, while another in the bottom at the opposite end discharges it. A crank at one end, turns a solid wooden cylinder in the centre, to which are attached two or more rows of spiral iron pins, that press the meat outwardly through a succession of sharp steel knives, set within the box. It is made finer or coarser according to



SAUSAGE CUTTER (OPEN).—FIG. 2.

the rapidity with which it is fed. One machine will cut several hundred pounds per day. Price \$5 for the small size and \$10 for the large.

It is the opinion of some eminent chemists that, weight for weight, barley is nearly as exhausting as wheat, as it contains quite as much inorganic material, and differs only in its organic composition.

OUR PRESENT VOLUME.

In carrying out the designs of this journal, we have taken measures to make the present volume more worthy of the reading public than any of its predecessors. A new font of type has been cast expressly for it, the engravings will be more numerous and expensive, the paper of a superior quality, and the matter throughout eminently practical and useful.

Mr. D. J. Browne, author of the "Sylvia Americana," will continue to write on various subjects, but more especially on those of Economical Botany, and other branches of Natural History. Dr. Antisell, favorably known as a practical farmer and lecturer, will give analyses of soils, and an occasional article on Agricultural Chemistry and Geology. Mr. S. B. Parsons will contribute several pages monthly on Horticulture. His long practical familiarity with this subject at home, and observations during an extensive tour in Europe among the nurseries, gardens, and conservatories of that country, eminently qualify him for the task he has undertaken. We have before announced, that Mr. Solon Robinson, who has long been familiar with the agricultural public in every section of the Union, is now on a southern tour, and during the ensuing spring and summer, will travel through the northern States; and all the valuable facts and improvements which an active and intelligent mind, in direct contact with the most enlightened farmers and planters throughout the country can condense for our paper, will be given through our columns. Nor are the ladies to be neglected. Their department will receive particular attention, by the contributions of several skilful, practical, and highly intelligent housewives, whose names, through diffidence on their part of being known as public writers, we are not at liberty to mention. The General Farming and Stock Department, will, as heretofore, be managed by the Editors, with the aid of a number of able correspondents from different parts of the Union.

And to these last, now, we make our most earnest appeal, that they will give us in the most condensed and reliable form, such new and approved facts, systems or practice as they may deem of interest to be known. In this way the knowledge of each will be accessible to all, and every man will thus be multiplied a thousand fold, in his usefulness to himself and the public. You are scattered over a widely diversified soil, through various climates, and are engaged in bringing to maturity almost every variety of useful product—products on which depend the comfort, the health—yes, the very lives of yourselves, your families, and your fellow beings. Henceforth let us have your best experience on all matters connected with an enlightened agriculture. Write often if it be but briefly. In this way you will greatly benefit yourselves as well as others.

WETTING BRICK.—Few people except builders, are aware of the advantage of wetting bricks before laying them. A wall twelve inches thick, built of good mortar, with brick well soaked, is stronger, in every respect, than one sixteen inches thick built dry.

ADVANTAGES OF DRAINING AND SUBSOIL PLOWING.—NO. 1.

Soils that are composed of stiff clay, light sand or gravel, are not often benefitted by subsoil plowing, unless previously prepared for this operation. Stiff clays ought in all cases, to be first thoroughly *underdrained* by some one of the most approved methods now in use. The water, which is held in these soils, and which escapes only by slow evaporation keeps the land cold, and in a condition totally unfitted to the growth of any useful vegetable. Even rice, which is particularly an aquatic plant, requires a change of water to secure its growth. Stagnant water would be fatal to this crop. How much more certainly deleterious, is a soil thus saturated, for all those useful vegetable products, which require a well-divided, well-drained porous soil, through which the roots can range in every direction in search of food. Such soils are especially termed *cold*, and for this reason.

It is a well-established principle, that *sensible* heat becomes *latent* or concealed, when it is absorbed by water or any other substance, which in consequence of this absorption, is changed from a solid to a liquid, or from a liquid to a gaseous state. Thus, if we take a piece of ice at zero, and expose it to a temperature above the freezing point, its own temperature will be slowly raised till it reaches 32°, at which it changes to a liquid. At this point it will remain, no matter how great the heat to which it may be exposed, till all has melted. From the instant the ice reached 32°, the heat absorbed till it is converted into water, becomes *latent*; and this is not perceptible to sensation, or by the use of any philosophical instrument hitherto constructed. It would be a vast stride in science, should such an instrument at any time hereafter be discovered.

If the water be then exposed to a heat above 212°, it will, as in the case with ice, be gradually carried up to that point, when, if not shut in by a powerful vessel, as in steam boilers, so as effectually to prevent evaporation, it will remain at 212°, though exposed to the same temperature as before, till all the water is converted into vapor. And, just in the same manner as ice absorbed a large quantity of sensible heat and rendered it latent, to change it from a solid to a liquid, so does the liquid absorb a large amount of heat to convert it into vapor, which, by this conversion, and solely in consequence of it, is rendered latent or insensible.

Now, if a farmer once understands this principle, he will readily comprehend why soils that are saturated with water, are with peculiar propriety termed cold and unproductive. The heat of the sun and atmosphere, which is absorbed by porous soils, and thus elevates their temperature and stimulates vegetation, is almost exclusively exhausted in evaporating the superfluous water of wet soils. Instead of the beneficial effect of warming the ground, which it was intended to have produced, the heat is employed to remove the water which the lazy or shiftless owner should have got rid of by underdraining; and the roots of the plants are

pinched or entirely repulsed by their cold, clammy bed, instead of being kindly invited to a wide and rapid extension in a genial soil.

Draining has this further and great advantage, that by leading off the water from the soil at its base, the cracks, pores or interstices, just before occupied by the water, are at once filled by the air which presses after it (for there can be no vacuum); and this air imparts whatever sensible heat it may possess above that of the soil till an equilibrium of temperature is restored.

Another beautiful result follows the transmission of air through the soil, when the temperature of the former is more elevated than the latter. The atmosphere always holds watery vapor, which we have seen absorbs a large quantity of latent heat. When the temperature of the air is lowered, it is compelled to part with a portion of this vapor, which is converted into sensible moisture, dew or rain, and which is thus deposited in the soil, and directly in contact with the roots; and while engaged in this operation another beneficent law compels it to give up all the latent heat required by its change from water to vapor, and which on being made sensible, is at once absorbed by the soil.

The air which presses after the water drawn off by underdrains, also carries with it large quantities of fertilizing gases, as ammonia, carbonic acid, &c. These, although existing in minute proportions through the atmosphere, yet afford to growing vegetation a large aggregate of their ultimate product. The air contains from over 94 to 99 per cent. of the elements which make up the entire vegetable growth, whether it be wood, grain, grass, roots or other products; and although much of this amount may be and undoubtedly is derived from the soil, yet its minute division and the circulation of air through it, contribute greatly to the augmentation of the crop. Besides the nutritive gases brought into the soil by a free circulation of air, others are formed in fertile soils, from the same cause. The oxygen brought into contact with the vegetable matter in the soil, converts it into carbonic acid, and being formed at the mouth of the rootlets of the plants, is immediately carried into their circulation and deposited, thus contributing to their growth. Ammonia may be formed by the attractive and condensing properties of the alumina and carbon of the soil, and nitric acid, such an efficient aid in vegetation, is undoubtedly thus produced by fertile calcareous soils, or such as contain large proportions of lime.

The benefits resulting from the circulation of air through a fertile, well-drained soil can scarcely be overrated. It was the secret of Jethro Tull's great success, in his system of thorough pulverization. By this means, he secured the ready admission and escape of the air, which not only brought with it heat, moisture and all the *organic* elements of the crops, but by acting on the mineral constituents of the soil, it set such of them free as were necessary to furnish their *inorganic* portions, and thus the whole product was made up with scarcely the addition of manures. An originally fertile soil, with its mineral ingredients properly proportioned, when

thus treated, will continue to bear good crops for a long time, without the addition of manures. We mention this as illustrating a principle, but not as sanctioning the practice of omitting the use of manures; for it scarcely admits of a question, that the application of manures, both mineral and prutrescent, are to a certain extent, the *cheapest* method of effecting the minute division of the soil, so essential to the free circulation of the air, and consequently, to the growth of plants. In addition to this great advantage, they contain the appropriate food of plants, which must necessarily augment their growth. A barren soil is incapable of deriving much benefit from the circulation of air within or through it. Such are the almost purely silicious (sands or gravels), and the barren clays. They are lacking in the proper materials or the nice adjustment of their elements, which is essential to their seizing upon and hoarding up the food of plants, so profusely brought to them by the atmosphere. The effect of atmospheric circulation is further shown, by the rapid growth of potted plants. These having a porous, fertile soil to revel in, thoroughly ventilated by a hole in the bottom of the pot, through which the air circulates freely, and in consequence of which an incredible amount of moisture and fertilizing atmospheric gasses are condensed, grow with a rapidity and produce results which are unattainable by plants under any circumstances less favorable. The yield in flowers and fruits, from small shrubs and plants, under these favorable circumstances, is quite astonishing, as is shown by the great quantity of pet japonicas, jessamines, geraniums and roses; and the oranges, lemons and even figs that are gathered within a single season from one small and unpretending stalk. On disentering their roots, they will be found to have crossed each other in every direction, and almost to have usurped the entire space allotted them, to the exclusion of no small portion of the earth.

As a further illustration of this principle, we instance the fact, that many of the small under-drains have been found nearly or quite choked up by the roots of perennial plants, that have for years been allowed to grow near them, the roots in some instances, having run for a distance of 15 or 20 feet through the drain, seeking no less the benefit of the *air* than the moisture which they have there found. One of our most intelligent friends is so impressed with the importance of atmospheric circulation through the soil, that he has just arranged extensive tile brick tunnels beneath his grapery to secure it. The application of the foregoing principles will be considered in our next and subsequent numbers.

SWEET INDIAN MEAL, HOMMONY OR SAME, may always be had as easily as the musty, sour or insipid. Select a richly-flavored seed; give it a full growth by good cultivation, on a good soil, well manured; let it ripen thoroughly on the stalk; husk and store it *on the cob*, in a well-aired granary, and there let it remain till wanted for use. Then shell and grind it—*not too fine*—between sharp flinty stones, set so far apart that

they cannot rub; then separate the hulls by sifting, if meal, or by washing, if hommony; boil for two hours in clear, soft water, with salt to season to the taste. With rich milk, or dressed with butter and sugar, or syrup (not molasses), such a dish is as worthy to grace the President's table, as that of any of his fellow farmers in the United States.

SHIPPING INDIAN CORN TO EUROPE.

GRAT complaint has no doubt been justly made of the meal and corn imported into England and elsewhere from this country. This grain is more liable to heat, mould or sour, than any other; and there has been a characteristic American haste, waste and carelessness, in almost every operation in sending it forward to a market.

Carlyle, in a recent number of Frazier's Magazine, after abusing, in his own thorough Saxon, through every mood and tense, such specimens of this grain and meal as had been sent there on sale, concludes his tirade by the following blunt specimen of dawning truth and its hearty avowal:—

"Well, three days ago I received, direct from the barn of an American friend, as it was stowed there last autumn, a small barrel of Indian corn in the natural state; large ears or cobs of corn merely stript of its loose leaves. On each ear, which is of obelisk shape, about the size of a large thick, truncated carrot, there are, perhaps, about five hundred grains arranged in close order in their eight columns; the color gold yellow, or, in some cases, with a flecker of blood-red. These grains need to be rubbed off, and ground by some rational miller, whose mill-stones are hard enough for the work; that is all the secret of preparing them. And here comes the important point. This grain I now, for the first time, find is *sweet*, among the sweetest; with an excellent rich taste, something like that of nuts; indeed, it seems to me, probably from novelty in part, decidedly sweeter than wheat or any other grain I have ever tasted. So that it would appear that all our experiments hitherto on Indian meal have been vitiated to the heart by a deadly original sin, or fundamental falsity to start with; as if experimenting on Westphalia ham, all the ham hitherto presented us for trial had been in a *rancid* state. The difference between ham and rancid-ham, M. Soyer well knows, is considerable! This is the difference, however, this highly considerable one, we have encountered hitherto in all our experiences of Indian meal. Ground by a reasonable miller, who grinds only it, and not his millstones along with it, this grain, I can already promise, will make cleanly, wholesome, and palatable eating; and be fit for the cook's art under all manner of conditions; ready to combine with whatever judicious condiment, and reward well whatever wise treatment he applies to it; and, indeed, on the whole, I should say, a more promising article could not well be submitted to him if his art is really a useful one.

"Practical English enterprise, independent of benevolence, might now find, and will by and

by have to find, in reference to this foreign article of food, an immense development. And as for specially benevolent bodies of men, whose grand text is the 'food prospects,' they, I must declare, are wandering in darkness with broad day beside them, till they teach us to get Indian meal, such as our American cousins get, that we may eat it with thanks to heaven as they do. New food, whole continents of food; and not rancid ham, but the actual sound Westphalia! To this consummation we must come; there is no other harbor of refuge for hungry human population; but all the distressed population fleets and disconsolate Mathusians of the world may ride there; and surely it is great pity the entrance were not cleared a little, and a few buoys set up and soundings taken by competent persons.

We have tried various modes of sending maize across the Atlantic, shelled and ground, both raw and kiln-dried, but seldom has it been shipped *in the cob*. Sound, well-cured corn, stored in a perfectly dry place, on ship-board, and kept in the cob till ready to grind and eat, we believe is the only way of giving to European palates the genuine, aromatic, nutty flavor of our unmatched Indian corn.

DOG DISTEMPER—POTATO ROT.

I SEE several cures for sick dogs in the Agriculturist; I have tried the following in extreme cases, and have succeeded to a miracle. When a weakness across the loins appears as one of the symptoms, it is a sure case—give one teaspoonful of laudanum, and repeat the dose in a few hours unless relief is found from the first.

POTATO ROT.—Do you want a cure for potato rot? Let me give you a sure one. A Mr. Jonathan Ackley, living on Holmes' Bay, at mouth of Machias River, Maine, burnt brush wood around his patch of potatoes, and had perfect potatoes when his neighbors had not enough sound ones left to tell what destroyed their bed-fellows. Yes—but one swallow does not make a summer.

Well, here is another. A Mr. Getchell of Middle River, near Machias, was a thriving man, and he burnt bricks while his crops were growing. A good burn he made too, for his field of potatoes around the kiln were entirely free from rot, while all others in the neighborhood were affected by it.

HENRY L. SMITH.

Madisonville, La.

EXPERIMENTS WITH POTATOES.

MR. GRAHAM, of England, tried the following experiments with potatoes last season:—

First. He cut off the stalks when in blossom, and then covered the drill, to see if, as many assert, the yield would be greater than when the stalks were left to grow. The crop, when the tops were cut off, was scarcely as much as the seed!

Second. He cultivated one drill in the ordinary way, and from the stalks of another drill growing alongside he plucked all the blossoms. The difference in yield of the latter over the former was 43 per cent.

Third. His potatoes self-planted were not diseased. This is an experiment, however, that on account of the greater severity of the winters, cannot well be tried in our climate.

Fourth. In accordance with the recommendation of the Belgian government, when any of his potatoes showed symptoms of disease, he cut off the tops and covered the ground a foot deep with earth. But the produce of the potatoes thus treated was as badly diseased as those whose tops were left growing.

WISCONSIN FARMING.

ALTHOUGH I find here and there a few subscribers to your agricultural paper in this state, it is some time since I noticed a correspondent from it; and in the hope that I may awaken a little attention among the more intelligent readers, and induce them to communicate some valuable intelligence from this far off region, rather than with the expectation I shall impart it myself, I am induced to address you.

There is probably no one of our new states that has secured so large a proportion of intelligent and enterprising settlers from the older ones as Wisconsin. The healthfulness and general mildness of the climate, the almost uniform fertility of the soil, the abundance of springs and water courses, the rolling surface, yet absence of mountains, which admits of easy natural drainage without the expense of labor of leveling or surmounting rugged ascents; and then the happy, natural arrangement of interspersing woodland, prairies, and groves, with the facility of access by the great chain of inland lakes from the east and north, and by the Mississippi from the Gulf of Mexico from the south and west—all have conspired to give to this comparatively recent state, a rapidity of growth, an affluence of population, wealth, improvement and intelligence, never surpassed, if ever equalled. Already we have a commercial emporium in Milwaukee, numbering 15,000, and several minor places of 2,000 to 5,000, all supported in the fullest activity in supplying the merchandise and manufactures of the surrounding settlements. Yet, in the spring of '36, less than fourteen years since, I traversed almost the entire length of the state without meeting scarcely one comfortable abode, and several nights I had to camp out on what are now the most thronged thoroughfares, without a shelter to my head, save the canopy of heaven or the bark covering of the Indian wigwam. The whole state did not then contain 6,000 white men; now it has near half a million! Such is the rapidity and luxuriance of western growth. Milwaukee itself, at that time, boasted but one decent house, and that had only one finished room; and grateful indeed did I feel to its polite host, Mr. Juneau, (for a long period previously, an Indian trader at that post, but whose fine and stately form and urbane manners would have graced the court of Napoleon, and has since been fully appreciated as a Post Master and Mayor of that juvenile corporation), for a seat at his table, and a mattress, buffalo skins and blankets on the floor of his half-finished warehouse attic. Now how changed! We have 15 or

20 hotels, two or three of which are equal to the best in the Union, and all comfortable and respectable of their class. But it was not of all this, and an infinity more of similar matters, I designed to speak, but of the agricultural developments of the country.

Our first settlements were made in the south and east, where the prairies occupy a large share of the surface, but a small distance remote from the lake shore. From this point, the occupants have pushed northwardly and westwardly, till the Mississippi has been reached, and the Wisconsin and Lake Winnebago have been passed; and far beyond their northern shores, population has clustered, farms have been subdued, and the landscape is dotted with lowing herds, cultivated fields, and rising villages. The emigrants being generally of the more respectable classes, have at once commenced their operations by erecting good buildings, enclosing large areas with substantial fences, and adopting some of the best modern agricultural implements and stock. The result is seen by the immediate return of large crops of wheat, corn, hay and roots; and in large beeves, porkers and dairy products. The most conspicuous of our settlers, those who have either been men of note or are hoping to be, adopt at once the distinctive badge of citizenship, by the occupancy of large and well-cultivated farms. Governors Tallmadge, Dodge and Doty, are each large farmers. The former, for many years your distinguished Senator at Washington, now occupies his domain of a thousand acres at Taycheda, on the fertile shores of Lake Winnebago; Gov. Doty owns and cultivates a large island at its outlet into Fox river; and Gov. Dodge has his rural domicile still farther westward.

Our staple product is wheat, of which we send large quantities to the eastern market, principally through the lakes and the Erie canal, though some finds its way to New Orleans by the way of the Mississippi. Our wheat has an enviable character among the eastern millers, for the large quantity of flour it yields of a superior whiteness and strength. The best wheat districts of the Ohio Reserve, Milan, Sandusky, and other celebrated wheat depôts, have a reputation in no respect superior to our own. One great advantage we have over much of the Illinois wheat-growing region, is, in the almost universal production of winter instead of spring wheat, which they are compelled to substitute for such as winter kills, and to which it is much subject in large portions of the latter state. I will endeavor to collect statistics of our shipments in this one article, and send you hereafter.

Corn we raise in large quantities, but consume it principally at home, in fattening our swine and cattle, and feeding it to our working animals. Small quantities only have been hitherto exported; as, besides the uses first mentioned, we have had a large influx of hungry Germans and other emigrants to feed, who have consumed no small amount of our marketable grain, while they were preparing the means to live themselves, and afford the staff of life to others.

Hay, clover, roots of all kinds, peas, beans,

flax, hemp and even tobacco are raised, and can be produced in any quantity, when increased facilities and still more cheapened transportation will justify our sending them to a distant market.

I have used up my paper, and I fear your patience, without having scarcely begun my story of

WISCONSIN FARMING.

Violet Grove, Wis., Nov. 17th, 1849.

CHEAP LAND NEAR NEW YORK.

At South Amboy, within two hours of this city by steam-boat, which runs three to four times a day, land can be purchased at the very low price of ten dollars per acre. The location is healthy, and commands fine views of the ocean and adjacent country: it is also convenient to sea-bathing. Pleasant sites here for cottages, and how much more healthy and agreeable for our citizens to spend the summer in a place like this, than to be cooped up in the narrow streets of New York.

Delightful roads for walking and driving, sea-bathing, pure air, fresh fruits and vegetables. It is wonderful to us that so many will pass the hot weather, cooped up in the confined atmosphere of the city, when it is so cheap and easy to get into the country. Here, in consequence of the absence of large parks, they have no good opportunity to exercise properly; the consequence is, that all suffer more or less in health.

This sandy land, poor as it looks, is susceptible of being easily improved, and can be made to yield as good crops as any other. We much prefer its cultivation to a stiff clay, and can make its returns quite as profitable. For more particular information on the general management of sandy soil, we would refer to pages 97 and 166 of the first volume of the Agriculturist. We intend to enlarge upon this subject more fully hereafter, particularly in the way of gardens and orchards, and show how easy it is to cultivate fruits and vegetables of the best quality in this kind of soil.

ECONOMICAL MODE OF FEEDING STOCK.

FARMERS who have but few animals, say two or three cows, a yoke of cattle, or a pair of horses, will find it greatly for their interest to cut their corn-stalks, straw, and even hay when it bears a high price. When this is done, put the cut fodder into casks of suitable dimensions, take hot water, to prolong the heat, and salt it at the rate of two quarts to a barrel. All know that brine can be kept hotter longer than fresh water. Pour this upon the cut fodder as fast as possible, in order to prevent the escape of heat, cover the head of the cask close with a blanket, or anything convenient which will keep in the steam, and let it stand half a day or longer, when it will be found tolerably well cooked. Now place it in troughs for the stock; and if you have a little meal or bran to sprinkle over it, your animals will relish the feed so much the better, and it will do them more good. Corn-stalks, straw, and coarse hay, are worth twice as much for food when thus prepared, than if thrown out neither cut nor steamed. We give the above from experience, having been

in the habit of following the practice for years.

Farmers labor diligently during spring, summer, and autumn, to raise and harvest fodder, then allow a large portion to be wasted from sheer negligence. Winter is their leisure time, and they should endeavor, at some extra pains, to economise the food they have worked so hard to procure. Machines for cutting stalks, straw, and hay, have been greatly improved and multiplied within a few years past, and can now be had at low prices. It is economical to possess them, and no farmer should be without at least one on his premises.

BENEFIT OF SUB-SOIL PLOWING FOR CORN.

THE first week in May, 1849, I planted a field with corn, the same having been planted the two preceding years with corn without manure. The land was partly a sandy and partly a gravelly loam, and very much impoverished. I plowed it but once, and harrowed it after having thrown over a thin coat of coarse barn yard manure.

The corn was planted in drills three feet apart. A succession of rains followed, in consequence of which, one third or more failed of coming up; this I replanted the last week in May. It proved equally forward with the first planting, which is conclusive evidence to my mind that there is not that great advantage to be derived by early planting which is too often claimed, if the weather subsequently proves favorable. After the corn was four inches high, I run a small plow as near to the rows as could be done without injury, turning the earth from the corn, it being planted in drills. This covered the weeds which were beginning to spring up, and was followed with a small sub-soil plow to the depth of a foot or more, loosening the dirt but not turning it out of the furrow. About a week after this, I took for each acre 800 lbs. compost made up of 200 lbs. Peruvian guano, 200 lbs. bone dust, and 400 lbs. pulverized charcoal. This I sprinkled on each side the row in the furrow, following with a cultivator, which levelled the dirt in the centre and covered the compost. After two weeks I run a double furrow with the small plow (one of your double mould board plows would have saved half the labor), throwing the dirt to the corn. At the same time two men passed through, uncovering and straightening up any plants which needed it, and throwing out the dirt six inches to one foot. Some days after this, the sub-soil plow was run in the last-named furrow to as great a depth as possible, which was followed with the cultivator, leaving the ground nearly level and entirely free from weeds, except immediately round and between the stalks, which were cut up or pulled out by hand with very trifling labor. There was an extreme drought from the last week in June till August, and while the corn of my neighbors was suffering exceedingly, mine was growing from 2 to 2½ inches per day, by measurement, and yielded 144½ bushels ears, sound corn, per acre. I ought to have said the corn was covered by running the cultivator over it.

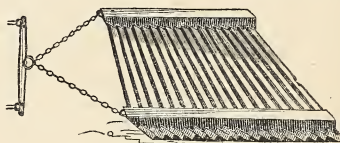
SAMUEL ALLEN.

Morristown, N. Jersey.

CLOD CRUSHER.

WE find in the London Agriculturist Gazette, a cut, fig. 3, of what is there called the "Cumberland Clod Crusher." We think it might be introduced into use in the United States with good effect, particularly on a stiff clay soil. The writer thus describes it:

It is so easily constructed that any carpenter can make one; nay, so simple is it, that a neighbor of mine made a temporary one of his harrow sledge, that answered on his soil as well as the Crosskill crusher he had already on his farm; and so effective are they for all the purposes of clod crushing, that farmers are laying aside their Crosskills to adopt them. They cost 30s. to 40s., according to their size and the quality of the wood employed. Perhaps the best size is six feet square. For this size, two, three, or four horses are used, according to the state and character of the soil, and the weight applied. For ordinary land, the weight of the crusher is enough; if the clods are more stubborn, the driver, to give additional weight, steps upon it and rides at his ease to the end of the field stepping out at the turning, and resuming his station as the horses proceed. Should the land



CLOD CRUSHER.—FIG. 3.

be one mass of large clay clods, he further increases the weight, by adding a few stones. The implement is made of two or three rails of ash or oak, as a frame 6 feet long, and laid parallel to each other, to make the frame 6 feet wide. Each rail being about 8 inches deep, and 4 inches broad, notched at the bottom to receive the cross boards. Across these rails are nailed 18 boards, perhaps 2 inches thick, and so broad as to overlap each other, thus elevating one of their angles 2 inches above the one on which it is laid, and along each of these angles, the whole length, a piece of hoop iron is nailed, to prevent the angles chafing; this being done, the implement is finished. It is dragged by two chains, one from each rail, joined to a swivel; the sloping sides of the boards forwards, the perpendicular sides following. The board next the drawing chains is sloped high up to the top of the frame, to prevent the soil from dragging.

RAZORS AND EDGE TOOLS.

THE edge of a finely-set razor or knife appears, to the naked eye, as perfectly smooth, and faultlessly polished. When viewed, however, through a magnifying glass of great power, the edge will appear rough and jagged, like an irregular-set saw. Nature would never leave her work so imperfectly. The more minutely you examine a flower—its petals, stamens, calyx or leaves; the fracture of minerals; the beautiful and harmonious arrangement of any part of the animal

creation, as of a feather, a hair, the skin, &c., the more perfect it will appear. Works of art are but *seeming* perfections—Nature's alone are genuine.

But our object is simply to give the hint, by which its imperfections can be made to subserve utility. In sharpening a razor, draw the edge from the heel to the point; for a knife, carry the blade over the hone from the point toward the heel. Each of these operations will set the rough points, which really constitute the edge, in a direction to catch the beard, wood or other substances, and sever them in the most effectual and speediest manner. The principle is fully illustrated in the form of a mill-saw, which cuts with great rapidity in one direction, but scarcely at all in the other.

In sharpening a knife, when brought to an edge, give it two or three strokes on the hone on both sides, with the back elevated a few degrees, so as to make a stunt edge. This will take off the wire edge, and give it durability, and prevent checking or *nicking*.

In shaving, lather with cold water; this gives hardness, rigidity, or firmness, to the skin, which holds the roots of the beard firmly. But dip the razor in hot water, just before using, or warm it by the fire, or in your hand it will then cut easier.

THE WATER SPANIEL.

NEXT after the sheep-dog in usefulness to the farmer, we rank the well-bred water spaniel. He is strong, hardy, courageous, active, sagacious, obedient, highly affectionate, and makes an



WATER SPANIEL.—FIG. 4.

excellent game as well as farm-dog; working in water as readily as upon land. Fig. 4 is a spirited cut, and shows the points advantageously of one of the best of this breed.

The water spaniel varies somewhat in size; but those most highly approved of approach the Newfoundland in height, though they are ordinarily about one-fourth less in weight. The hair is three to four inches in length, and quite curly, especially over the fore parts; the color varies from nearly pure white to jet black; but we have more generally seen them of a buff color, or buff and white, and black and white. The best of the kind we ever possessed came from Ireland, and was jet black. It would hunt any sort of game either on land or in water, and would dive for a stone and bring it up from a depth of ten to twelve feet. A better farm or

watch dog, or more attached creature to its master never walked.

SWAMP MUCK, OR PEAT, AS A FERTILIZER.

THIS substance abounds in almost every section of our country, and is capable of producing the greatest fertility in old worn out soils. Some qualities of it will answer a good purpose if put upon the land just as it is dug, without any mixture of lime or other substance. We witnessed the greatest beneficial effects of muck or peat that we have ever seen, not long since, upon the farm of Mr. James Buckalew, and also upon the farms of Mr. Forman Hendrickson, and Mr. John L. Hendrickson, in New Jersey. The last named gentleman showed us a piece of corn that averages this year sixty-three bushels to the acre. Seven years ago the field where it grew had a

dressing of 12 or 14 loads of muck and one bushel of lime to each load, and has had nothing since. Previous to the dressing of muck, the soil had been quite exhausted. Another New-Jersey farmer, Mr. Ezekiel Coombs, has completely renovated a worn out farm by the use of muck. We call attention to these gentlemen, that all who have this valuable fertilizer upon their farms, may see what has been done by others, and what they can also do themselves.

DWARF PEARS.

WITHIN the last ten years it has been well demonstrated that pears cannot be made to grow and succeed well, except by garden culture. To cultivate in this way for ten or fifteen years before reaping an abundant crop, is an expense beyond the means of the larger portion of those who esteem this delicious fruit.

To avoid this tedious process has long been a desideratum, and nothing has been found to answer the purpose but dwarf pears, or pears worked upon the Quince stock. They can be planted at short distances—8 or 10 feet apart—will grow luxuriantly, and many varieties will bear the second and third year after planting. A gentleman just informs us that one of his neighbors picked the last summer a fine pear from a tree planted in the spring. This not unusually occurs, but however desirable, should not be allowed, as the health of the tree is more or less injured thereby. The crop between the trees can by good management be made to pay the expense of manure and cultivation. We have a pear orchard of some four acres, containing about 1700 trees, ten feet apart. We put upon it the last spring \$150 worth of manure, and the following autumn gathered from it 275 bushels of potatoes, about 30 tons of sugar beets, besides a large quantity of turnips and cabbages, and in this instance a large part of the beet seed proved poor and did not vegetate. But it should be borne in mind that no crop should be placed between the trees that does not require constant cultivation, without which no pear orchard can flourish. Any root crop is good for this purpose, but corn, or any grain crop, is inadmissible; we know by experience that it is highly injurious.

In planting the pear or quince, it is well to place the stock entirely below the surface of the ground; in this way it is less liable to be attacked by borers, and as the tree grows, it will also be found to throw out roots from the pear wood which is below the surface. Thus the quince root will bring the tree into bearing immediately, and by the time such a result is desired, the tree will be upon its own root.

The planter, in his glowing visions of future profit, should not, however, calculate with certainty that each of his trees will grow without accident, and will produce him its dozen, or peck, or bushel of fruit. There is, unfortunately, such a thing as blight, and pear trees will often be cut off in a most unaccountable and mysterious manner. The cause of this blight being yet unknown, there has been discovered no remedy, and the only way is to anticipate the loss of one quarter of the trees before they come into full bearing, and to put up with this loss

with equanimity when it does occur. A person may escape without the loss of a single tree, but it is most safe to anticipate the worst. Yet with the loss of even one quarter of the trees, it is the best crop which can be raised. It must be a poor tree which at ten years of age will not produce a peck of fruit, and a peck of fine fruit will certainly bring a dollar, when Virgalieu pears were sold in the New York market last fall at six to eight cents each. With 400 such trees on an acre, it can readily be perceived that no other crop can compare with it; and the man who plants a five acre lot for each of his children at its birth, would be able to furnish those children a comfortable living at their majority.

We will now insert the estimate which we have made for our own guidance, premising that every fourth tree in the orchard is on its own root, and that the crop pays for the cultivation, which it may or may not do, according to the skill and management exercised. The estimate is for one acre of land.

430 trees at 50 cts. each, . . .	\$215 00
Planting do. 5 " each, . . .	21 50
Manure before planting, . . .	40 00
107 trees for filling in, in case one fourth of them should happen to be blighted, . . .	53 50
Pruning, &c. for ten years, . . .	50 00
Interest on \$380 for ten years, . . .	26 60

\$406 60

Proceeds the tenth year.

430 pecks of fruit a \$1. 430 00
It thus paying the cost the first year, and leaving a clear profit for subsequent years. Our estimate of the fruit produced, not being made from actual experience, may be incorrect; but we think it much below the probable crop. On the other hand, it should be borne in mind that the trees will be bearing more or less after the third or fourth year, and that the eighth or ninth year may produce as large a crop as the tenth. We have not included this in the estimate; but it can be applied either on the cost of the orchard, or to defray that of cultivation in case the crop should fall short of our anticipations. Such is our opinion of pear culture; but no one should embark in it without being prepared for occasional disappointments from year to year.

ANIMALS SHOULD BE ALWAYS KEPT IN A THRIVING CONDITION.—Do farmers ever reflect that all food and attention consumed by animals, without a corresponding improvement, is so much money thrown away? Every day in the life of a brute should be a day of progression towards maturity, either of working capacity or the shambles. Curtail your stock, sell or even give them away, till you have reduced the number within your ability to *full-feeding*. A prime milking cow amply fed, housed and cleanly kept, will produce as much milk through the season (winter and summer) as four or half a dozen, miserable brutes half fed; yet the last will consume two or three times the amount of food and attention appropriated by the other.

CONNECTICUT FARMING.

CONNECTICUT to a traveller from the rich prairies of the west, unaccustomed to broken lands, will look like a barren waste made up of rocky ridges, narrow valleys, and small sandy plains; the surface of its hills washed by the rains under two hundred years culture, until the better portion of its soil is removed, and the owners of such farms will be thought slovenly and unthrifty farmers. Yet such is a goodly portion of our State; and it is indeed too true, that our ancestors have cropped their more easily tilled lands, without returning anything to the soil, until large portions of such have become exhausted and some quite worthless. Under such circumstances, their descendants have been obliged to migrate to a new and virgin soil, or restore the exhausted and worn-out land of their native home. Between these alternatives many have chosen the former, and Connecticut's sons are now among the best farmers of Western New York, Pennsylvania, Ohio and Michigan; but a large portion of these descendants resolved upon the latter course, influenced by a love for their good old mother, and determined to renovate her soil, and make her what she once was, a luxuriant, fruitful, and happy mother of a growing family. That they are vigorously carrying these plans into effect, Mr. Robinson might have seen if he had given himself time to look, or if he had sought for information at the right sources, and been able to compare the past with the present, he might have seen among the greater portion of respectable farmers, indications of thrift and signs of improvement, which should have influenced him to have given a different complexion to his "Flight through Connecticut," and in fact he is forced to confess "there is an air of neatness about their dwellings which is commendable, but these belong to mechanics, no farmer dwells there."

The soil of our State is divided into small farms mostly, and the proprietor of each cultivates with his own hands, which with vigorous health is his only wealth; but with these means he is yearly improving that soil so far as he is able to do and support his own family; and although his progress is slow it is certain; and the last twenty years has shown a marked change to those who have had an opportunity to see and judge. Connecticut farmers have learned, that her soil to feed her sons must be fed in return, and no good farmer now thinks of constant cropping, without a regular return to the soil of a liberal supply of the food of plants.

I have delayed this communication to collect statistics of this season's crops, in my vicinity, in proof of my assertion, that Mr. Robinson has done us injustice. Ours is an agricultural town, and we have had as large a proportion of exhausted land within our limits as any section of the State. This, where it has been sold at all, has been sold as low as \$3 per acre within the last twenty years, and there are portions of this land now, which is worth to cultivate from \$40 to \$50 per acre; and these are still improving. Our grass lands lying in the vicinity of our main street, produce on the average four tons to

the acre, both crops, (we always cut two crops per year,) one field that was actually weighed, produced over five tons to the acre, and there are others which will quite equal that. There were three acres of oats, averaged 86 bushels per acre, one acre of which being limed produced 92 bushels; of corn there have been several pieces measured, some of the results I will state. One single acre produced 136 bushels; one piece of three acres produced 116½ bushels per acre, weighing 60 lbs. per bushel. Another piece of six acres, one acre of which was measured, produced 102 bushels, a fair average of the whole. In the same field were three acres of potatoes, which produced something over 600 bushels sound tubers. There were other fields in corn which were estimated to produce more than the last named, but not measured.

We have the pride also to believe that we rear as good horned cattle as any of our sister States. Our matched cattle sell at from three to four years of age, from 125 to 150 dollars per yoke; we can show native cows (which if Mr. Robinson were to see, he would probably cite as examples of slovenly breeding,) from whose milk at grass alone, 2 lbs. butter per day are made; and from a town in our vicinity which is considered as one of the poorest in our State, of only a population of 633, was exhibited at a late neighborhood cattle show, a team of nearly 80 yoke, many of which were worth \$100 per yoke. And now, Messrs. Editors, from these facts which I am able to substantiate, is Connecticut farming at the low ebb your tourist represents? or will he say that this is not a fair sample of the State? But this shall not avail him. We can prove that in other parts of the State, crops of greater value have been raised than any I have stated, particularly wheat and tobacco, which we do not grow in this place. I could multiply facts to prove that the art of farming is improving, facts that would go to show that by the improvements in agriculture, Connecticut will probably sustain a much larger population than she now has. But I have already extended my communication too far - my apology is the unwarranted attack upon us.

A CONNECTICUT FARMER.

Farming, Nov. 5th, 1849.

Our respected correspondent above, will see that we have somewhat abbreviated his communication; but we are certain he will be satisfied with the liberty we have taken, when he comes to read the December number of our paper, and finds that Mr. Robinson has commenced *reversing* the picture. He will have a good deal to say on the *bright side* of Connecticut farming before the year is up. As a further apology, we beg also to inform him, that Mr. Robinson is quite familiar with old Connecticut, for this is his native State; and moreover he was brought up a farmer, and so continued till he was about twenty years old, when he emigrated to the West. Since this, he has visited Connecticut repeatedly, traversing the State in various directions. As soon as this meets Mr. R's. eye, we presume our correspondent will hear from him in answer,

probably in our March number, as he is a thousand miles South by this time. He is a good-natured man, and wrote the "Flight" more out of sport than anything else; and yet he contends it was all true so far as he went, and cannot be gainsayed.

FLOWING THE PLAIN LANDS OF LONG ISLAND.

DR. PECK states, that with the Worcester Eagle D plow, with three yoke of cattle attached, he has succeeded in plowing these lands well, immediately after the wood was cut off, and without the previous operation of grubbing. This he has done at an expense of \$3 per acre, while the old grubbing process alone would have cost from \$12 to \$16 per acre. The trees and bushes cut off previous to plowing, stood very thick on the land; and their roots when he put the plow in were not only of ordinary size, but green and tough. Many farmers came from his immediate neighborhood to see his plowing, having little faith in removing scrub oak and pine stumps and roots in this summary way. We have only to add, that the manufacturers of these plows, are now at work on a model which will be decidedly more efficient than the one used by Dr. Peck. As soon as some are finished, they will be sent to our warehouse, where we shall be glad to have the Long Island farmers, and any others interested in such matters, call and look at them.

AN EXPERIMENT WITH HOGS.

John C. Stevens, 30 years ago.—*Extract from his Journal*.—"Sept. 30, 1819. Put up 30 hogs—15 barrows and 15 sows, in separate pens. The barrows weighed—250, 250, 196, 196, 175, 171, 171, 168, 163, 161, 141, 140, 114, 112; average, 170 lbs. The sows weighed—163, 158, 131, 126, 122, 119, 119, 117, 115, 113, 109, 105, 105, 101, 80; average, 119 lbs.

Nov. 4. The largest barrow weighed 334 lbs.—gain in 43 days, 84 lbs.

Nov. 10. Butchered hogs—not fed since noon yesterday. Thirteen of the fifteen barrows weighed after killed and before dressed—200, 225, 228, 259, 287, 160, 194, 226, 252, 317, 223, 203, 168, lbs.; average, 226 lbs. and a fraction. Dressed and weighed again, averaged 165 lbs., less a fraction. Average loss in dressing, 62 lbs.

Thirteen of the fifteen sows weighed before dressed—152½, 170, 186, 169, 189, 194, 224, 142, 233, 175, 174, 161, 169 lbs.; average, 180 lbs., less a fraction. When dressed, averaged 135 lbs. Average loss, 45 lbs., less a fraction, which is a less loss than upon the barrows.

The hogs were fattened upon pumpkins and potatoes, boiled, and some corn.

CORN FROM THE SANDY PLAINS OF LONG ISLAND.

—It is well known to many of our readers, that thousands of acres of the sandy land of the south side of Long Island, have never yet been cultivated. They have hitherto been supposed to be too poor for this purpose, and have consequently been left ever since the settlement of the country, to produce nothing but stunted pines and scrub oaks. Dr. Peck, of Lake Road Station,

has just sent us a fine sample of corn raised on this kind of land the past summer, as a sample of what can be produced there. He says it was late planted and imperfectly tilled. The ears of this sample are from 7½ to 10½ inches long, 2 inches diameter at the butt, and the cob is very perfectly filled with large, fine grains. It is of the white variety, and we should call it a handsome sample of corn, even if produced from a highly fertile soil.

GREAT AMOUNT OF INDIAN CORN FODDER GROWN IN ENGLAND.

W. HANTS states that ninety tons of Indian cornstalks, weighed green and fresh cut, were taken from a single acre in England last year. If this be so, it is more than double the weight of stalks we ever knew taken from an acre in America.

Perhaps there is some mistake in this statement, and perhaps the greater humidity of the English climate, and the stalk being well saturated with rain at the time of cutting, makes the difference in weight of acreable produce between the two countries.

Mr. H. urgently recommends increased cultivation of Indian corn throughout the south of England expressly for soiling, as the green stalks are highly relished by all stock there, pigs excepted. This agrees with our own opinions often expressed to the English farmers when travelling there eight years ago. We told them that they could not calculate upon the ripening of the grain in their cool, moist summer climate, but they might be certain of a great and valuable growth of stalks, which would be found equal to tares, rye, clover, lucern, &c., cut green and fed to their cattle.

SOUTH OREGON CORN.

PERMIT ME to give you for publication the origin and cultivation of a new variety of Indian corn, obtained by myself three years past from the State of Maryland—and successfully cultivated. This corn was introduced into the State in 1839, by Gen. Harrison, from the southern part of Oregon and cultivated successfully, and decided to be 30 per cent. superior to any before cultivated by himself. For myself, I can safely say, in some cases, I have nearly or quite doubled my crops on the same land, over any of the older varieties of corn. Its adaptation to thick planting, and prolific bearing, I consider great acquisitions to the corn crop. The color is orange-yellow; ears, long and large; grains from half to three-quarters of an inch in length, plump and closely set on a small red cob; sixteen to twenty-four rows to the ear; few or no barren stalks. It ripens early, for this climate, and I think would be a great acquisition to the corn crops of the north. It is known as South-Oregon corn.

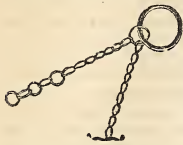
A. G. MOODY.

Smithfield, Isle of Wight, Co., Va.

TO TAKE THE FROST OUT OF ROOTS.—When potatoes or other roots are frozen, soak them in cold water till the frost is all drawn out, and they will be nearly as good as before frost bitten.

CATTLE-TIE.

FIG. 5 is a chain for tying up cattle in their stalls. The large ring goes over a stationary round post set up by the manger, and the chain is fastened to the horns or around the neck. The hook at the end of the lower length of the chain is passed through either of the rings in the



upper length, to suit the size at the base of the horns. It may be thought that this chain wears off the hair on the head of the animal, but this is not the fact. It is the neatest and most secure fastening in

CATTLE-TIE.—FIG. 5. use, and at the same time the most comfortable; as the animal slips the chain up and down the stationary post, by the large ring, as it wishes to move its head in feeding or getting up and lying down; it can also turn and lick itself when thus fastened. The great superiority of a chain is its durability. It lasts an indefinite length of time, and is much stronger and more convenient to handle than a rope. Price from 37 to 50 cents.

MASSACHUSETTS' SWAMP DRAINING.

THE system of swamp-draining in this state, may, in part, perhaps, be illustrated by my own experience, and I therefore proceed to detail the operation with a large swamp I inherited, with the hill-land that surrounds it.

The swamps in this and all other States, are formed in various ways; either by a rivulet sluggishly meandering through low land, which has not an outlet sufficiently deep to drain it; it may be supplied by springs with more water than escapes rapidly; it may be entirely supplied by rains, so completely shut in by hills, as to afford no outlet; or, lastly, it may be inundated by the salt water at high tide. Each of these require a treatment somewhat unlike the other.

My own swamp combined the two first conditions. It was a low quaking bog, of about ten acres and three-fourths, into which a small rivulet from an adjoining hill came dancing and tumbling along; but, when once at that point, seemed so much in love with the alders, the brakes, the cat-tails, and the long coarse reeds and grasses which it found there in profusion, that it seemed in no hurry to get away; and when, at last, like a truant loiterer, it came under the eye of its master again, it slunk away silent and ashamed, under cover of huge clusters of dwarf willows and water-beech. Besides this rivulet, which was sometimes dry, in midsummer or severe dry winters, I noticed the lower edges of the rim surrounding the swamp gave evidence of springs, which found an egress in the bog. I had observed, too, that when frozen in winter, that in several places the ice gave way to what we call air-holes, which was conclusive proof to me that there were springs under them. You may judge that I considered this a pretty formidable undertaking; but having heard of several similar achieve-

ments, though on a smaller scale, I determined on undertaking this.

My first operation was to commence a ditch at a point, about 35 rods in a direct line from the outlet of the swamp, where the rivulet made its first descent, in a short rapid having five feet fall. The excavation was through an alluvial soil, and was five feet deep, four feet on the bottom, and twelve to fifteen on the surface, according to the undulations. This was carried direct to the swamp, and the earth, most of which I scraped out with an ox-shovel, (by which a man and team will do the work of six or eight Irishmen,) was moved directly to the bed of the rivulet; and, although this meandered about in so many directions as to run three times the length of my ditch between the same points, yet it was so much narrower than the latter, that I had dirt enough to fill it to a level with the field. I did not then expect to derive any other benefit from this reclaimed land than to make the little jutting capes formed by the sinuosities of the streamlet available for the plow, having always had to lose a full acre and three-fourths of worthless sod, when I broke up the other part of the field. But you shall see I soon made this the best part of it.

I continued the ditch of the same depth and width, but at a slight angle from that outside or below the swamp, so as to go direct to the entrance of the stream. This ditch, owing to some irregularity in the shape of the swamp, was about 40 rods long. I had completed the outside ditch in the spring, and waited till the inlet was nearly dry in summer, when I found a considerable part of the water had drained off. I should have before said, that having meditated the invasion of the swamp the preceding winter, I had taken the precaution to cut off the largest alders on the proposed route of the ditch. This was all the clearing I had done, and the roots were removed, as we came to them, by cutting off in a line with either side of the excavation, and undermining, and dragging out all the others.

I had three modes of getting rid of the earth. The first was by throwing it into some tolerably deep holes near the excavation; the second was by a narrow tumbril running on the bottom of the excavation for a short distance, then up a slight depression in the bank, from which I had convenient access to the new surface of the recently-filled stream, and by this top-dressing I made the best land in the meadow. The balance of the swamp dirt was thrown upon the bank. With a sledge, made something like a large stone-boat, with sides, and a head and tail piece, and the bottom quite rounding, to draw easily, I removed all this earth the following winter, after it had thoroughly drained, and when the ground was frozen. It formed an excellent bedding for my cattle-yard, sheep-fold, and pig-pens, besides affording more than I could conveniently use for several compost heaps. Some of these were made with quick lime, some with butchers' offal, and a large one from a livery-stable, and all of which I found most valuable manures, as the swamp muck used for this purpose was mostly peat or rich alluvion. A small

part of the bottom of the ditch only being hardpan.

I ran a somewhat irregular ditch, shallower and very much narrower than the main one, around or near the outer edge of the swamp, disposing of the excavated earth in the same manner as the former. This last cut off all the water supplied by the springs, except two larger ones near the centre, which I carried off by digging a short narrow ditch from thence to the main one.

My swamp was thus completely drained, and although I had expended considerable money in the operation, I did not estimate it to have cost me a penny. The filling up and making available the waste land of the meadow, the peat and rich mud for the muck heaps, and the roots and small stuff cut off (where fuel is very high), I deem an ample compensation for the cost.

The following autumn, I engaged a gang of very worthy Scotchmen, to dig out and level as much of the swamp as they chose, beginning at one end and working towards the other, for which their only compensation was the fuel they obtained in the roots, as I reserved the upper part for my own use. So well did they make out with their job, that they begged I would defer clearing off the remainder (they had done about half of it) till the next spring, that they might be able to finish it. Finding I had enough to commence my experiments with, I readily consented, and the following season they completed it.

I threw two or three light bridges over the ditches to make them accessible, and before the full rains set in, and when the swamp was driest, accompanied by a stout willing pair of oxen and a large sward D plow, I marched on to my newly-acquired territory with the stride of a conqueror, flourishing a long ox goad, rather to direct than to urge my team, for I always train them to mind my words and motions rather than my blows. My plow had the dial clevis, by the use of which I could plow close to the banks of the ditch, and allow the team to walk on the partially firm or sodded earth, and avoid stepping in the soft newly-turned furrows. The strong and sharp lock-coulter cut through the tufts of bog-grass and brakes, besides cutting up many of the extremities of long roots, the larger portions of which had been dug out for fuel. These I subsequently dragged together and burnt, with such hommocks as were not needed to fill the holes, and the ashes were spread over what had ceased to be a swamp, and had now become a field!

I then drew on about 50 bushels of unslacked lime to the acre, and spread it, then slightly harrowed it in. In the winter, I dug from an adjoining hill, sand and fine gravel, which I spread evenly over the frozen surface, about two inches deep, and followed this with a top dressing of 30 bushels of leached ashes, and 20 large sled-loads of barnyard manure to the acre.

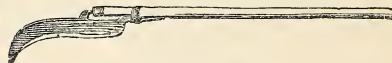
The ground was so light the following spring that it did not need plowing. I harrowed it with a heavily weighted long-toothed harrow, then sowed two bushels of oats, one peck of Timothy, and two of herds grass per acre, on one-half; and furrowed the remainder for corn and potatoes.

The season was quite dry, but I found a part of my crops suffered from some minor springs I had not discovered, but which subsequent ditching remedied. On the part of the field not thus affected, I had large crops. As nearly as I could estimate, this piece yielded at the rate of 70 bushels oats, 65 of corn, and 220 bushels of potatoes to the acre. The grass yielded the following season, could not have been less than two tons at the first, and one at the second cutting; which, at \$12 per ton, the price it then bore, produced me a net value of \$30 for one season, after paying for cutting and curing. I put the remainder of the land into oats and grass, which has done equally well ever since; with the aid of a few narrow but deep ditches where necessary, and an occasional top-dressing of gravel, ashes, and stable-manure. After deducting the full cost of this top-dressing, I consider my reclaimed swamp has yielded me a net profit equal to the interest on \$300 per acre, a sum I should promptly refuse if offered for my old swamp.

I attribute my great success to the deep and thorough ditching, which effectually drains the land; to the lime, which warms it, and converts the inert vegetable matter into food for the crops; the sand and gravel, which furnish the silex for their frame-work (ashes); and the manure, which both warms the soil and yields food for the plants. The deep bed of vegetable mold, incorporated in a bed of fine alluvial earth, which ages have been adding to it from the neighboring hills, will continue to remain a bed of almost perennial fertility. This will suffice for one specimen of Massachusetts swamp draining.

AN OLD BAY STATE FARMER.

BUSH HOOK.—This implement is made of various forms, but that of fig. 6, for general work, has proved the most convenient. It is



BUSH HOOK.—FIG. 6.

used for underbrushing in the forest as well as for cutting bushes and briars in open fields. We much prefer it to the short scythe or axe for the above purposes, more especially when the brush is rather large. Price \$1 without, or \$1 50 with handle.

QUANTITY OF SEED WHEAT PER ACRE.

In a ramble recently among the farmers of the State of Delaware, we find that the most usual quantity sown by the drill, is five pecks to the acre, but some contend that it is not enough, and find their account in sowing two bushels. The average crops of well-improved limed land in Newcastle county, is twenty bushels per acre. Probably no part of the United States can show as great improvement in worn-out farms, as in the above county. Lime has been the great cause of the fertility now to be seen there. Guano of late has also been extensively and very advantageously used. To these may added the very great improvements made in the plow, and

the general disposition of farmers to use better tools.

Hussey's Reaping Machines we found extensively used in Delaware; and no country, except the prairies, can be better suited to the working of drilling and reaping machines, for it is very level, and free from stones; the soil, also, is quite friable, and easily worked over a great portion of the state.

GEORGIA FARMING.

I AM greatly pleased with the advice to southern planters, and with Mr. Robinson's letters; and glad that he gives no quarter to some of the Yankee farmers, as well as to us farther south. It will do both good. Georgia is trying to do better; and if there were no more new worlds of fresh land to go to, her people would begin to make her blossom as the rose. As it is, her march is onward. Look out for the day when the south will spin and weave up so much cotton that John Bull can no more say for its price, "thus far and no further."

"Our cotton dealers now begin to believe in a very short crop—the fine fall for picking out, good roads and fair prices have accelerated its coming to market. Two millions is their fullest estimate. How sincerely I wish it could never exceed that amount; for, as things have heretofore been, cotton raisers have been "heavers of wood and drawers of water" for other parts of the world. But I trust a better day is dawning for us, when the capitalists of your section will know what to do with cheaper water power, cheaper labor, (white, too), cheaper living, and what is above all, the raw cotton at their very doors, with cheap railroads to get to the shipping; and who then can head them? Can old England? Can New England? Our trees are full of green leaves yet, and thousands of blooming flowers; and while I write we need no fire, even in the early morning. Please let me hear from you about the gutta serena." B. V. I.

THE GROWING WHEAT CROP.—Mr. Robinson writes us from Delaware, Nov. 25th, that he never saw the wheat crop so universally good as it is this season wherever he has travelled. Some fields in Delaware have been injured by the fly, but the weather is so very favorable that the crop is recovering.

Drilling Wheat.—Mr. Robinson also says, that a greater proportion of the wheat in Delaware is sown by drill machines than in any other state; and it is the general opinion that it increases the crop at least *ten per cent.*, and saves *twenty per cent.* of seed.

SAVE YOUR MANURE.—What are you doing to save your manure—the food of your next season's crops? Are you allowing it to be dropped in the road, the commons, or on declivities where the fresh rains will wash it beyond reach? Are you subjecting it to drainage from the cave troughs, or evaporation from sun and wind? or are you carefully housing it? or composting it in a tight, basin-shaped yard for future use? We venture the assertion, that there are in these

United States ten farmers who waste \$50 annually in manure, where there is one who pays a dollar for an agricultural paper, which would teach him how to save it. Yet the dollar *must* be saved, while the \$50 are wasted without a regret.

WIRE FENCES.

No one who values his shrubs and flowers on a lawn, where alone they ought to be, would rest a week without these effective, but almost invisible fences. Our lawn occupies some eight acres; but the most valuable shrubs and evergreens are upon two acres near the house. Now it is well known that cattle will go over or through a fine evergreen, with the same object that swine will rub against a post. To this fact our broken evergreens will bear abundant testimony. To save these, and at the same time to pasture the rest of the lawn, we procured annealed wire of Nos. 9 and 6, placed the posts 100 feet apart, using occasionally a tree for a post, and passed through these four strands of wire. At one end of the whole line a strong post was placed firmly in the ground, and the wire fastened to it. At the other end of the line a similar post was placed, the strands of wire passed through holes in it and the end of each strand, fastened in a small cylindrical piece of iron about an inch in diameter. One end of this iron being squared and a wrench applied to it; the wire was without difficulty drawn perfectly tight. This cost some two and a half dollars per 100 feet, and can scarcely be seen at 50 yards distance. We caused it to be painted *red*, and the first day three *white* cows were let in it; they came out with their necks and breasts striped with *red*, giving clear evidence that they had tested its strength. We fully believe that no animal will break through it. We have been amused to see the way in which our cattle after testing its strength, would stand off and gaze at it, as if in utter astonishment and bewilderment that so insignificant looking a barrier should be able to withstand all their efforts to break through it.

For cheapness, no fence—scarcely even the crooked ones of Virginia—can equal it; and for beauty, its superiority is evident. What a beautiful sight would a cleared farm of several hundred acres present, if fenced in this way, and with a fine group of trees to every two or three acres. The passer by would seldom detect the wire fence, and would fancy it one large lawn, whose owner was a man of true taste. We think if made entirely of No. 6 wire it would be better, although the cost of it would thus be somewhat increased.

IMPORTATION OF SAXONY SHEEP.—By the ship *Louisiana*, arrived here in November last, Mr. D. W. Catlin of this city, and Mr. C. B. Smith of Litchfield county, Connecticut, imported 4 Saxony bucks and 8 ewes. They were selected for them by Baron de Spreck near Leipsic, and are of nearly the same character as those we have before noticed as being imported at different times by Mr. Taintor. Their size and fineness are

extraordinary, and they cannot but make a most valuable cross on the Saxon sheep of this country. They were attended by a German shepherd and a very fine sheep dog.

POULTRY AND EGGS.

Few persons are aware of the large quantities of poultry and eggs that enter into human consumption. The statistics of the United States for 1839, give a total of \$12,000,000 worth of poultry then in this country, an amount, we have no doubt far below its actual value at that time.

The sales of poultry alone in the city of Boston last year, it is said, exceeded \$1,000,000, and this too with a population, including its dependencies, scarcely over 150,000. From the best information we can obtain of the poulterers of New York, we find that this city and its dependencies consume a still greater amount in proportion to its inhabitants. This would make over \$3,000,000 annually. Philadelphia probably consumes less in proportion, as she does not

keys, pigeons, partridges, geese, ducks, rabbits, &c., about 4,000,000 per annum.

This enormous consumption of poultry, and its products, shows conclusively its money value, and that it is not a matter of indifference whether we have hens that will lay two dozen eggs a year, or six, eight, or ten dozen; nor whether birds, eating a quart, a gallon, or a peck of grain to rear and fatten them, will weigh a pound and a half, or four, six, or eight pounds. Economy in the management, and skill in the selection and breeding of poultry, is just as much an object of attention for the amount involved, as the improvement of cattle, horses, sheep or swine.

In no other department of the animal creation can a fine taste be so economically indulged, as in rearing choice or fancy poultry. There is so great a variety, such innumerable patterns of form, color and style, and each combined with varying excellence, that there is almost an infinity of room for the indulgence of a breeder's skill; and to none possessed of a fine or cultivated rural taste, is the exhibition

of this skill indifferent, or unattended with a genuine, hearty, home-bred delight.

There is one development of this fancy, however, to which we seriously object, which is shown in the excessive size of the barnyard fowl. Some of these, as the Cochinchina, the Shanghae, the Malay, the Java, the Bucks County, and others, are so large and unwieldy as to be justly obnoxious to the charge of *coarseness*, which can never be reconciled either with elegance, or, what is highly important to the smaller farmer, *profit*. Such large birds are only tolerable for the table when nearly full grown and thoroughly well fattened, or caponised; and the latter condition, however desirable, and easily attained by a little attention and skill, is yet hardly introduced, and seldom practiced in this country. The Dorking is the largest barndoor fowl that should be tolerated; and this is a bird,

when well bred, so finely proportioned, and has for so long a time been reared for its choice table qualities, that its size, though frequently large, is seldom objectionable. Their meat is lean, tender, and finely marbled. Most other large fowls lay the fat on in big lumps over different parts of the body, thus leaving the meat dry and tough, or flabby and tasteless.

Fig. 7 will give the reader a good idea of a fine, short-legged, heavy-bodied pair of Dorkings, belonging to a friend of ours in this vicinity; but we must confess we rather prefer the group sketched by Mr. Rotch, which appeared at page 112 of our second volume. For a full account of this breed of fowls, we refer to page 204 of our fourth volume, and to a work now in press, by Mr. Saxton, called the *American Poultry Yard*.



DORKING FOWLS.—FIG. 7.

maintain so many hotels and eating-houses in proportion to its population as New York, neither does anything like the number of passenger-ships and steamers sail from her port. Baltimore, New Orleans, and other southern cities are better supplied with wild geese, ducks, turkeys, and other game than the northern cities, hence a less consumption of poultry. If we assume less than one-third the Boston amount as the average money value of poultry and eggs consumed throughout the United States, we shall find the sum will reach about \$45,000,000 a year.

France consumes over 8,000,000,000, and Paris about 140,000,000 eggs per annum. McCulloch states the quantity imported into England, previous to 1840, from France alone, as exceeding 60,000,000 a year; and MQueen, at near 70,000,000. Paris consumes of chickens, tur-

TURKIES IN TENNESSEE.

You have no idea at the north of the immense number of turkies raised by us in this quarter, and sent to the towns south of us for consumption. Only imagine a *small* flock of gobblers, amounting to seven hundred and thirty-one by actual count, which I saw passing my house the other day. They were driven along the high road by two men and three boys, and were on their way to Nashville, where they would be cooped and put on board steamboat for the New-Orleans market. And this, remember, is *only one* of a large number of flocks which we annually export. Now, sirs, what do you think of that? Don't the bare thought of the thing fairly make your mouths water for the great fat gobblers of Tennessee, to furnish forth your Thanksgiving and Christmas dinner-tables?

Raising turkies here is a great and peculiar business among our small farmers—and large ones too, as to that matter, sometimes—a full account of which I intend to give you one of these days, when I get time to scratch it out. In general, however, I can now say, that we usually let them steal their nests, for we find they bring out larger and stronger broods for it. When the young are discovered, we bring them home to a friendly wood, high and close fenced in near the house, and then feed them with coarse Indian meal pudding, allowing them to find shelter as they can within the large wooded enclosure. As soon as the young ones get stout enough, they wander round the plantation in search of grubs, grasshoppers, and other *varmint*, which they pick up by the million—fattening themselves, and greatly benefitting the crops of the planters. In fact, although they partially destroy some of the grass and grain crops on the plantation, we have come to the conclusion that the grasshoppers, &c., would beat them at this, so we let the turkies run, and put up with our losses in this way as best we can. In the fall, when mast is plenty, they get very fat on that; but if this crop be short, we are then obliged to add corn till they are fattened for the market, and then they are marched off as above for the South.

The turkies, young and old, have to contend with many enemies, such as the hawk, owl, fox, polecat, mink, and weasel; but to destroy these is great *sport* for the boys, and teaches them how to handle fire-arms; and will make good soldiers of them for the defence of their country if wanted hereafter; which heaven forbid may be the case, for I don't believe in one man killing another to settle a paltry dispute.

E. G. YANCEY.

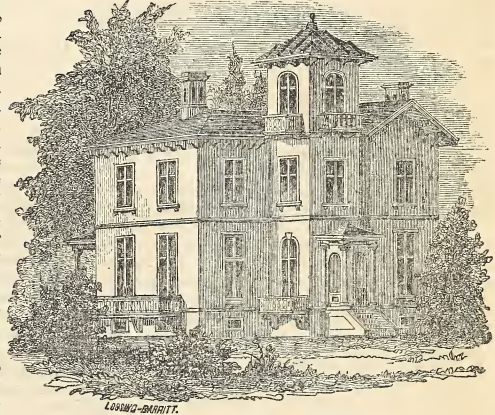
GRATIFYING PREMIUMS.—For several years preceding 1848, we took the silver medals, at the American Institute, for exhibiting the best and greatest variety of Agricultural Implements; also, various medals and diplomas for the best

single implements. At the exhibition of 1848, the Institute created a *Gold Medal* expressly for us; and the past year, 1849, they created another *Gold Medal* expressly for us, besides awarding us various premiums of different value. We never alluded to this subject before, nor should we now, except as a matter of justice to ourselves, and to show the public that our manufactures and establishment are highly appreciated at home as well as abroad.

AN ITALIAN VILLA.

For the Northern states of America, we think the Italian style of architecture for villas and gentlemen's country houses, one of the most appropriate, elegant and convenient that can be adopted. For this reason, we are glad to see them on the increase in our country, more especially in the suburbs of towns and villages.

This style is founded upon the Roman, and was perfected during the thirteenth, fourteenth and fifteenth centuries. Its massive walls, sheltering porch, cool shady verandas, arcades,



AN ITALIAN VILLA.—FIG. 8.

round arched windows, airy balconies, projecting roof, ornamental chimnies, and bold campanile or tower, rising to a lofty height, combine to make buildings in this style among the most imposing and agreeable ever erected. And then, looking from the exterior into the interior, every thing seems susceptible of being made so comfortable, elegant and even luxurious, that the style wins upon one's heart, and we cannot but wish it much more general than we now find it. Houses in the Italian style are more appropriately placed up the side or on top of a hill, and should be flanked with one or more terraces. These may be adorned with vases, statues and fountains. The trees around should be of a loftier character than those which surround any other orders of architecture, save, perhaps, that of the pointed or castellated gothic.

We give no ground plan of this house; all we think necessary for our readers is an exterior

for their guide; the interior each one would prefer arranging to suit his own taste or convenience.

To some, much of the above may seem out of place, and over fine talk and show for farmers. But why so? Thousands of them in our happy country, we rejoice to say, can afford a handsome house and beautiful grounds; then why should they not possess and enjoy them when this is the case? We really do not know who has a better right than the followers of that noble and independent occupation—tilling the soil. Is the farmer to be a dull, unimprovable machine, or a mean clod-hopper from generation to generation, and all the days of his life?

WHAT DOES IT COST TO GROW AN ACRE OF POTATOES?

We have taken some pains to get estimates from practical men in different sections of the country, and here are some of the results. The labor and seed rated at customary prices.

Forman Hendrickson, near Allentown, N. J., estimates the labor of preparing the ground, hauling manure, cutting seed, planting, cultivating, digging and harvesting at \$15, and seven bushels of seed, \$3 50. Average crop, 130 bushels. Land loamy, made rich by peat and lime.

Thomas Hancocks, farmer, near Burlington, N. J., estimates as follows:—

7 bushels cut seed, - - - -	\$3 50
1 day, with 2 horses plowing, - - -	2 00
2 days hauling manure, - - - -	4 00
1 day 2 men and boy and team planting, 3 00	
½ day harrowing, 2 half days plowing, and 1 day hoeing, - - - -	3 75
3 days digging and 2 days covering, -	3 75

Crop 200 bushels. Land sandy loam. \$20 00

Benjamin Cooper's estimate at Camden, N. J.:—

1 man and 2 horses plowing, 2 men and carts hauling manure, and 1 man and boy cutting and dropping, in every third furrow, the manure spread and plowed in 1 day, - - -	\$5 25
½ day harrowing, and 1 day cultivating	3 00
2 days hoeing, - - - -	1 50
1-10th of crop for digging, - - -	7 50
2 men and team 1 day to put crop in cellar, - - - -	3 00
20 bushels seed, - - - -	10 00

Crop 150 bushels. Land sandy. \$30 25
Rent of land worth \$6 an acre.

Estimate at Chester, Penn.:—

15 bushel seed at 62½, - - - -	\$9 37½
1 day plowing, - - - -	2 00
Hauling 30 loads manure, - - - -	2 50
2 days' work spreading ditto, - - -	1 50
4 " cutting seed and planting, - -	3 00
1 " and team harrowing and cultivating, - - - -	2 00
6 men and team digging and securing,	5 75

Crop 150 to 200 bushels. Land clayey. \$26 12½

Estimate of Wm. Webb, Wilmington, Del.:—

1 day fall plowing, - - - -	\$1 50
20 loads stable manure and 20 loads night soil, hauling, - - - -	7 50
1 day spring plowing, - - - -	1 50
Furrowing or working drills, - - -	25
1 day cutting seed, - - - -	75
2 " planting, - - - -	1 50
Ridging and rolling, - - - -	50
Harrowing, cultivating, and hoeing, -	1 25
14 bushels seed, at 50c., - - -	7 00
Digging 230 bushels, at 40c., - - -	9 20
	\$30 95

Estimate in Sussex County, Del.:—

15 bushels seed, at 37½c., - - -	\$5 62½
Half day plowing, with 1 horse, - -	62½
Hauling sand on swamp land, 2 men and yoke of oxen, two days, - -	3 25
4 days' work planting, - - - -	2 00
Harrowing, cultivating and hoeing, -	2 25
Digging, by partly plowing out and securing, - - - -	3 50
	\$17 25

Crop 200 bushels to acre.

CEDAR-BRUSH FENCE.

THIS is quite a common fence in Virginia, and is occasionally seen in New Jersey and Delaware. If well built, it is a good and durable fence. It is most usually made in this way: first, throw up a ridge of earth about a foot above the level, and in this drive stakes on a line two to three feet apart, three and a half to four feet high, and then wattle in the cedar limbs, beating them down with a maul as compactly as possible. This fence will last good as long as the stakes endure. Some leave the stakes about a foot above the fence at first, and drive them down as they decay, adding more brush at the same time, and thus the fence will last fifteen or twenty years, with less repairs than a common rail fence.

KEEP YOUR STABLES CLEAN.—Cleanliness in the stables and yards is as essential to the health, comfort and thrift of your stock as to yourselves, children and servants. Standing in cold muddy yards, and lying down in the filth of stables, especially during severe weather, is a direct loss of food and condition. If dry and warm in cold weather, animals will thrive better on one half their accustomed food, than with all, if these conditions are neglected.

CONSUMPTION OF COTTON IN THE UNITED STATES.—This is estimated at not less than 650,000 bales the past year, 500,000 of which were consumed in the eastern states, and the balance at the south and west. This will not seem at all incredible, when it is known that there are upwards of 250 cotton mills already in operation south of Mason and Dixon's line.

MR. ROBINSON'S TOUR.—No. 12.

Estates of the Messrs. Burgwin.—About three miles below the ferry at Halifax, N. C., on the east side of the Roanoke, I entered the Burgwin estates, formerly owned by the late Thomas Pollock, Esq., of Edenton, and only for a few years past by the present proprietors, Mr. Burgwin, senior, and his sons, T. Pollock Burgwin and Henry K. Burgwin.

It was just before sundown, on the 13th of May, when I crossed the ferry, after a long day's drive, which I was prompted to do by the fact that the river and clouds both threatened a flood that might detain me several days, which I proposed to spend beneath the hospitable roof of an intelligent North Carolina planter, rather than in a dull town. So taking such directions as a negro only can give a stranger, I commenced a voyage of discovery through two or three intervening plantations, and was very near becoming entangled with blind roads and back water, already overflowing and cutting off communication, with darkness and a thunder-storm threatening, when I discovered a carriage approaching, which I found to contain a handsome, intelligent-looking gentleman, with piercing black eyes, and black hair just beginning to show a few silvery streaks. No sooner had I inquired if that was Mr. Burgwin, and announced my name, than he leaped from his own, and approached my carriage to welcome me most heartily as an old acquaintance, though this was our first meeting. Sending forward the carriage upon the errand of mercy that brought him out, which was to carry consolation and mercy to a sick servant, he took a seat with me and drove to the "Cottage," the residence of Mr. T. Pollock Burgwin, whom I had just met, and of his father when not at his place on the Trent. Although I missed the much-loved pleasure of female society, we managed to pass the time rapidly along somewhat beyond midnight, conversing exclusively upon the subject of improving and rendering fertile the worn-out lands of North Carolina and Virginia. Upon this subject Mr. B. is an enthusiast. He has been an extensive traveller, and has visited some of the best cultivated farms of the northern states; and when he came into possession of his property here in 1840, instead of leaving it to be utterly worn out by overseers, who never learned any other art of tillage than cutting down and burning up timber, planting cotton, and wearing out land,—which is then "turned out" to grow up again while they cut down more,—he determined to apply the knowledge he had gained from reading and travelling, and devote all the energies of his strong mind to an effort to change that old, ruinous system, which has nearly destroyed and depopulated some sections of the south. To carry out his plans, he found it absolutely necessary to change his overseer for a young man who had no plans of his own, but was willing to obey orders.

In speaking of the operations of this gentleman it may be understood that I also include the plantations of his father and brother, as all

three are conducted upon the same general system. In the first place, cotton is utterly discarded from the premises, and clover, yes, rich, luxuriant red clover, by the hundred and thousand acres, has been made to grow where nothing but brown sedge and oldfield pines grew before. Illustrative of this fact Mr. B. related to me an anecdote. There was one tract known as the "old field," containing about an hundred acres, upland, clayey, loamy soil, nearly level, "lying out," that is, abandoned as no longer fit for cultivation, covered with brown sedge, and growing up to oldfield pines.

Calling the attention of his overseer one day, who had already set him down as utterly crazy, and determined to ruin his land if not himself by his "new-fangled plows," and insisting upon having every furrow at least ten inches deep, he fairly drove the man to a standing point by ordering him to prepare that "old field" for the plow. Utterly amazed at the order, the fellow dropped the reins upon his horse's neck, turned round, and stared Mr. B. in the face as if to discover whether he was in sober earnestness, and answered him with an inquiring "Sir?" Mr. B. repeated the order, and the overseer replied: "Why, Mr. Burgwin, do you expect to raise a crop upon that field? If you do, I can assure you that I wore that land out ten years ago."

"I know it," said Mr. B.; "but I don't intend you shall wear out *my* land; and if you think you cannot conduct my business just as I think best, I will try to get some one that will do it; for I would not allow you to manage the place according to your notions, if you would give me five thousand dollars a-year."

"Well, sir, if you order it, I suppose I can clear up and plow the land; and, if you insist upon it, will turn you up a bed of brick clay, ten inches deep; but let me tell you, sir, *you will never make enough to pay for the salt your horses eat while doing it.*"

Well, the "old field" was plowed up, and manured as well as the scanty supply would afford, and planted with corn. The first crop was twelve bushels to the acre, the second, thirteen bushels, the third, six bushels of wheat; it was then dressed with a good coat of stable manure and forty bushels of lime to the acre, and sowed with wheat, in October, '48, which, if it had not been for that destructive frost in April, '49, would undoubtedly have averaged twenty, and probably twenty-five, bushels to the acre, and still carry a most excellent crop of clover, which, after receiving a bushel of plaster to the acre in May, if it does not "pay for the salt the horses eat," it will pay for a considerable quantity that the herd of cattle will require while feeding upon it. Cattle so fed are under charge of a herdsman, and at night are yarded in temporary pens upon the most barren knolls or galled hill sides; which puts them in a condition, in their turn, to produce rich crops of corn, wheat, and clover.

The order of rotation is,—commence with a field at rest, and plow ten inches deep, in April and May, and sow cowpeas broadcast, and harrow in; or break up, that is plow in the fall!

or winter, turning under all the manure that can be given. In the spring, plant corn, and, at the last working of the corn, sow peas broadcast; cut off the corn in September, plow under the peas, and give a top dressing of lime, at the rate of 35 or 40 bushels per acre, and then sow and harrow in 5 to 8 pecks of wheat per acre. In February or March, following, sow 4 quarts of clover seed per acre. Harvest the wheat in June, and sow one bushel of plaster per acre in August, and allow no stock to run upon the stubble. Next April, or May, sow again one bushel of plaster per acre, and pasture lightly during the summer. In August of this year, fallow for wheat, which is seeded in October, and the clover then seeds itself. For corn, the land is thoroughly harrowed after plowing, and then planted in drills, five feet apart. Sometimes a single stalk is left every 18 inches apart, in the drills; at other plantings, two stalks of corn are left every 36 inches apart, in the drills. The corn is then cultivated with small plows, cultivators, and hoes.

Manure is used, either upon corn or wheat ground, on such parts as require it most. But after the land is brought to that state, by means of the valuable system of plowing, manure, and lime, that it will produce a good crop of clover, Mr. B. is sure of a good crop of wheat or corn, whenever required.

Lime costs about ten cents a bushel, and is applied once in five years, only. It is brought from New York in the same vessels that come after corn and wheat, which were first induced to come up the Roanoke thus far by the influence of the Messrs. Burgwin. This point is 115 miles above the sound, and vessels are towed up by steamboats. One vessel brought up 2,100 bushels of lime, last spring, which was unloaded by the hands upon H. K. Burgwin's place, in one day, and 6,650 bushels of corn, (186 tons,) put on board in three days more. The price of corn, on board, was 53 cents. Wheat, 95 cents. The Messrs. Burgwin estimate their present crop of wheat at 20,000 bushels, and of corn, last year, 26,000 bushels; and the neighborhood ships from 500,000 to 600,000 bushels of corn a-year. The amount of H. K. Burgwin's sales, last year, was \$222 to each field hand; and one of his neighbors, below, Mr. Richard H. Smith, to \$245—which is better than has been done in cotton for many years. Mr. Smith's entire crop sold, was ninety-three barrels of corn, and 12,000 pounds of seed cotton, to each hand, counting all in the field over fourteen years old. [A "barrel" of corn is five bushels of shelled corn.] Mr. H. K. Burgwin has made some pork in former years, but does not think it good policy to feed sound corn to hogs, at present prices of corn and pork.

While I was at these plantations, a flood in the river, which rises thirty feet, spread over much of the bottom lands. This they are about to prevent by heavy embankments; but it is a question with me whether it will pay cost; for, notwithstanding loss of crops occasionally, these overflows add immense fertility to the land.

The Messrs. B. use nine of Hussey's reapers,

which they infinitely prefer to McCormick's; and Mr. T. P. B. was engaged in erecting a threshing machine to go by steam, similar to Mr. Bolling's, on James River, which he finds necessary to meet the demands of his increasing crops, under his, (in that region,) new system of farming; notwithstanding the predictions of neighbors, overseers, and even negroes, that he would ruin his land, break up himself, and be ready to sell out, after trying his "new-fangled notions" a year or two. Besides his deep plowing, which, it was thought by some persons, would destroy the fertility of the soil, he has made a good deal of use of the subsoil plow; and the amount of ditching which he has done is very great; but his increased crops will soon pay the expense. His crop of corn, last year, upon 600 acres, averaged thirty-one bushels; but he aims at an average of forty-five. The usual average, upon upland, will not exceed fifteen, and forty bushels is considered a great crop, even on the swamp lands upon Trent River; so says the elder Mr. Burgwin. To show the enormous increase of manure, I will state that he hauled out, last year, upwards of 3,000 four-horse, or ox loads; this is spread broadcast and plowed in. His crop sold, the same year, from the labor of fifty hands, (besides ditching, manuring, and other improvements, and making all supplies of bread and meat, and part of the clothing for the people,) was 10,000 bushels of corn, at 45 cents, and 3,000 bushels of wheat, at 90 cents. The wheat, last year, averaged, upon 270 acres, twelve bushels; and upon fifty acres of that which alone was limed, the average was twenty-two bushels—more than paying for liming in the first crop.

His growing crop, when I was on the place, was 450 acres of wheat, 350 corn, 520 clover, upon which he keeps an hundred head of cattle, and hogs unnumbered. He had, last year, however, 24,000 pounds of pork, which was mostly fattened upon "wild potatoes," peas, pumpkins, clover, and soft corn. The crops upon each of the other plantations, are upon nearly the same scale.

The Messrs. Burgwin give it as their opinion, that a planter cannot expend money in any way, with such a certainty of making an hundred per cent. upon the expenditure, as in the purchase of lime, plaster, and clover seed. If it is objected that they have no facilities to obtain it, let them remember that these gentlemen had none when they commenced operations. If the people of the southern states desire to prevent the country from becoming a desert, they must open the navigation of streams and build railroads. Do not say "we can't;" look at the New York and Erie Railroad, carried through almost impassable mountains, and you will then say, "we can, we will." Besides, if all the land upon the Roanoke were under such cultivation—and it is all susceptible of it—as these plantations and a few others are, there would be a daily line of steamboats, instead of an occasional vessel finding its way up to carry off the produce. Mr. Burgwin, senior, told me that he got one cargo of lime at his place on the Trent,

for four cents. It came as ballast, which will often be the case when the quantity of grain increases as it may, by the use of lime.

Mr. H. K. B. pointed out a spot in the midst of one clover field, still covered with broom sedge, which he left as a memento of what the whole was before lime and manure altered the whole appearance as well as fertility of the place. Mr. B. told me that there are about thirty miles of fencing upon these places, *to keep out other folks' cattle*. What a tax! But it is just so all over the United States. At his house I found a most lovely and accomplished lady, delightfully situated in the new mansion at the "Hill Side," but which, I regret to learn, has since been destroyed by fire. I hope Mr. B.'s valuable library, in which was an abundant supply of agricultural books, was saved. Mrs. B. appeared more lovely in my eyes, in consequence of meeting her in the negro quarter administering to the sick—an occupation, in my opinion, that always makes a woman angelic. She was a Greenough, of Boston; and it gives me pleasure to bear this just meed of praise to her friends there and elsewhere.

P. S.—Since the above was written, I have had the pleasure of meeting Mr. T. P. Burgwin in this city, and he informs me that they have just shipped five head of shorthorn cattle, purchased of Mr. Vail, last summer, which they hope will not only improve their own herd, but give an impetus to improvement of the stock of all that region. They have also contracted for 40,000 bushels of lime to be sent forward. This will cost them, delivered on their plantation, ten cents a bushel. Mr. B. has just been informed that a great freshet in the Roanoke has burst their embankment and injured their crop of corn materially, and has probably destroyed a great deal of corn upon all the low grounds of other plantations.

New York, Nov. 7th, 1849.

SMALL vs. LARGE CALVES.

In the November number of the *Agriculturist*, Mr. Sotham has given us a very interesting communication on this subject. Although I confess to be somewhat "Durhamish" in my prejudices, yet I trust Mr. Sotham will accept my testimony in his favor, so far as small calves are preferable to large ones. I believe, with him, that a large calf, that is, large when first dropped from the cow, never yet made a prime animal; on the other hand, the small, well-bred calf, is sure to come up right.

This year I had a calf from the old, celebrated Matilda, from which Mr. Prentice has raised so many choice animals, got by Mr. Vail's imported bull, Duke of Wellington. When this calf was a few days old, with no small amount of pride I showed it to one of my neighbors, who, by the way, professes to be a good judge of stock, and to my surprise, he declared "It won't worth twenty shillings. It won't *big* enough to ever be good for anything." I exhibited this "runt of a calf," if any one so pleases to call it, at the late state show held at Syracuse, and was offered

for it there \$150, and it was then only ten weeks old. She now promises to make the best cow ever produced by Matilda, now near sixteen years old.

I cannot, however, agree with Mr. Sotham, that among the Durhams "there are *thirty mongrels with high pedigrees to one prime beast*," nor can I further agree, that because there are mongrels, called Durhams, that this "*condemns the breed*."

It is certainly anything but pleasant to breeders of thorough-bred animals, to see individuals palming off upon the public their quarter and half bloods for pure-bred stock; and no one can have greater contempt for the practices of such men than myself. I sincerely wish buyers would be more careful, and breeders more honest.

I rejoice, however, to see individuals crossing their native stock with the improved breeds. Every such cross tends to improvement, and only needs to be skillfully practiced and continued, to add millions to the real wealth of our country. But let such animals be known as *grades*, and not endeavor to rank them as *thorough-bred* stock. It is this mean, contemptible practice of selling these grades as pure-bred animals, that has done more to retard improvement and discourage honest breeders, than all other influences combined. The only remedy for all who wish to procure *thorough-bred* animals, is to *look well to their pedigrees*, purchase of responsible breeders, and be willing to pay a remunerating price. In this way they can rear a herd that will be a source of real pleasure and profit to themselves, and do honor to the particular breed they may chance to prefer.

S. P. CHAPMAN.

Clockville, Mad. Co., N. Y., Nov., 1849.

CISTERNS FOR HOUSES AND CATTLE YARDS.

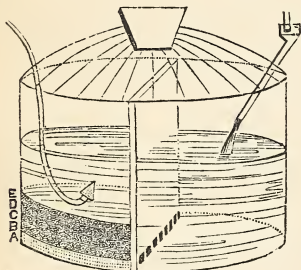
WHEN spring or running water cannot be brought into the house or cattle yards, troughs should be placed under the eaves of the house, and every farm and out building, and the water conveyed from them by means of pipes to a large cistern. In most cases where this is done, an ample supply of water can be obtained all the year, not only for the house and domestic purposes, but for the farm stock when confined to their yards during the winter months. Any one who has never practiced this system, would be surprised at the quantity of water annually collected from the roofs of even a few buildings of ordinary size; one of our friends thus obtains sufficient for his house, stock, and also for irrigating his garden. His buildings, however, are numerous and of considerable extent.

Another great advantage of cisterns is, that if properly built and taken care of, the rain water thus obtained to fill them is always soft for washing, and palatable and wholesome to drink.

Where there is a compact clay, no further preparation is necessary for stock purposes, than to excavate the cistern of a sufficient size and depth; and to keep up the banks on every side, place two frames of single joist around it,

near the top and bottom, between which and the banks heavy boards or plank may be set in an upright position. The earth keeps them in place on one side, and the joist prevents their falling. They require to be only tight enough to keep the clay from washing in, as no appreciable quantity of water will escape from the sides or bottom.

For household purposes, one should be made with more care and expense, and so constructed as to afford pure filtered water at all times. These may be formed in various ways, and of different materials, stone, brick, or even wood; though the two former are preferable. They should be permanently divided into two apartments, somewhat similar to the annexed cut, one to receive the water, and another for a reservoir to contain such as is ready for use.



CISTERN.—FIG. 9.

Alternate layers of gravel, sand, and charcoal at the bottom of the first, and sand and gravel in the last, are sufficient; the water being allowed to pass through the several layers mentioned, will be rendered perfectly free from all impurities. Some who are particularly choice in preparing water, make use of filtering stones, but this is not essential. Occasional cleaning may be necessary, and the substitution of new filtering materials will at all times keep them sweet.

PLASTER CASTS OF ANIMALS.

OFTEN have I admired that splendid plaster cast of a prize shorthorn heifer, belonging to Sir Charles Tempest, imported by you a few years ago; and admiring, I have been led to inquire why something in that way may not be done at home? It would be a capital opportunity for some public spirited man to show his love for the agriculture of the country, by causing a model to be made by some good artist of the best Devon, or even of the best native cow to be found, from which copies might be multiplied at pleasure at a nominal expense. Let the copies be sold cheap, and many farmers would have them who would deem it a piece of extravagance to purchase an imported one at \$6. Such casts of improved American stock would form an excellent premium for agricultural societies.

Look at Power's statue of the Greek Slave, hundreds of passable copies of which are daily

hawked about our streets at a quarter of a dollar each—would such a cast as I advocate be any the less classic than this? Certainly not; at least only to the extent that man is above the brute creation—both are nature's handiwork. Please give us your views upon the subject.

Boston, Mass., Oct. 15th, 1849.

J. B. D.

We entirely concur with our correspondent in the great benefit it would confer on the farming community, if good plaster casts of all improved domestic animals could be got up and distributed as stock prizes by our agricultural societies. The farmers would thus have models constantly before them to correct and improve their taste, and their children would grow up with a knowledge of the best forms of domestic animals. We have no doubt that this would be the means of making a more rapid improvement in breeding superior stock in the United States, than any other that can be carried into effect. It would be well, also, to supply every district school in the country with a case of such models, and employ a competent person to visit these schools, and point out the superiority of their forms to the children, and enlarge on the beneficial effects of breeding such throughout the country, instead of the miserable animals which are now so common.

IMPROVED STOCK AT THE SOUTH.

OUR readers will not be much surprised that improved stock does not succeed better at the South, after perusing the following extract from the letter of one of our correspondents. It is a Southern, not a Northern man who speaks.

Notwithstanding the extreme prejudice among the people of this vicinity against Durham cattle, I have ventured to order you to send me a yearling bull, which I intend to cross on some choice heifers which I have of the native stock, or as they are sometimes called, "old Spanish cattle." I also intend to procure some grade Durhams, which I can buy in this neighborhood for the same price as common cattle; and I hope from them with the bull you send me, to obtain some better stock than the common piny woods cattle of this State.

Those grade Durham heifers I spoke of in a former letter, are the descendants of a bull which two of my neighbors bought at Philadelphia several years ago, for which they paid \$200, and brought him here at a heavy expense; kept him up for a few months, with just such care as might be expected from a careless or obstinate negro, who had conceived a violent prejudice against the animal; and because he did not thrive under such care, during the period, too, of his acclimation, (he was most injudiciously brought on in the spring) and because his owners could not stand the ridicule which some of their thoughtless or perhaps malicious neighbors were disposed to bestow upon "the thousand dollar bull," as they termed him, he was turned out among the common scrubs in the fall, to fatten upon dry cotton stalks and frost

bitten pea vines; and finally to get through the winter upon such feed as only southern cattle can live upon; and in the spring he went to the woods to take his chance upon the poor thin grass of Mississippi, and because a delicately bred animal could not thrive well and "show his blood" in his calves, under such treatment, the whole race of improved cattle were most incontinently condemned, and this really good animal finally fattened and killed for beef, and his stock no more appreciated than a Choctaw Indian would appreciate a thorough bred Arabian courser.

Mississippi, Oct. 1st, 1849.

NOVEL METHOD OF GRAFTING.

FINDING my name in your journal, as having given some instruction to my valued friend, E. J. Capell, in relation to summer and fall grafting, I am induced to send you a brief notice of my practice of that kind of grafting.

About the summer of 1825, I by request, budded or inoculated a small nursery of apples, for a friend in a distant State. Finding that I had not quite a sufficiency of scions of some varieties, I dressed the small twigs containing the terminal buds of some dozen stems, in the form of long half wedges, and inserted them under the bark in the manner of budding. Finding that these took quite as successfully as buds, and that stems from which the bark would not slip could be used as well as others, I continued to practice it; and I have found it equally successful in various kinds of trees, and at all seasons of the year, when the bark of the stock separates freely from the wood.

Last spring, grafted several Vercalieu pears in this manner into quince stocks; they are now growing. I grafted a few peach trees in this way, on the 28th of October 1848, but few trees would receive the graft. Of those that did, some will probably bear fruit next summer. I have found this method of using the terminal bud very convenient, especially in peach and nectarine trees. Many of the buds of these trees, after they begin to bear fruit, have no power to produce any thing but blossoms. The terminal bud is always a wood bud, and its shoot is vigorous.

Among the advantages of this mode of grafting, the following may be named:

1st. The process is simple, easy and may be rapidly performed. 2d. It is less liable to be injured by carelessness, &c. 3d. In case of failure from whatever cause, the stock remains uninjured, and the work may be repeated any required number of times. 4th. It may be performed at almost any period except in winter. For spring grafting, the scions should be collected before the buds swell.

A. B. LAWRENCE.

Liberty, Amite Co., Mississippi, Oct. 1849.

HOW TO SHOE A VICIOUS HORSE.—The Commercial Advertiser says, that an officer in the United States Army, recently returned from Mexico, thus subdued a horse that was troublesome in handling his feet to be shod:—

"He took a cord about the size of a common bed cord, put it in the mouth of the horse like a

bit, and tied it tightly on the top of the animal's head, passing his left ear under the string, not painfully tight, but tight enough to keep the ear down, and the cord in its place. This done, he patted the horse gently on the side of his head, and commanded him to follow; and instantly the horse obeyed, perfectly subdued, and as gentle and obedient as a well-trained dog; suffering his feet to be lifted with entire impunity, and acting in all respects like an old stager. That simple string thus tied made him at once as docile and obedient as any one could desire. The gentleman who thus furnished this exceedingly simple means of subduing a very dangerous propensity, intimated that it is practiced in Mexico and South America in the management of wild horses."

SALE OF SHORTHORN CATTLE IN OHIO.

I FORWARD you an account of administrators' sale, of the late Alfred Hadley's shorthorns and steers of this county, on the 30th of October last.

Clarksville, an imported cow 14 years old,	\$ 66 00
Clarksville, second, 4 months old,	123 00
Americus, 2 years old, bred by Mr. Wm. Neff,	317 00
Adelaide, 1 " " " "	171 00
Ida Bell, 1 " " " "	159 00
Grazilla, 1 " " " "	140 00
Pink, 5 " " " "	107 00
Anna, 2 " " " " high grade heifer	117 00
10 grade cows, heifers and calves,	30 to 65 00
Comet, 2 years old, " " "	160 00
Bem, 3 months " " "	155 00
Zack Taylor, 9 " " "	108 00
Snow Ball, 2 years " " "	50 00
Snow Flake, 5 months " " "	50 00
2 four years old grade steers,	80 and 75 00
50 two " " " averaged each	27 06
25 one " " " "	18 00

E. CARPENTER.

Briar Patch Cottage, Warren }
Co. Ohio Nov. 4th, 1849. }

The receipt of the account of the above sale, quite rejoiced our hearts. We had not heard from Ohio shorthorns for so long a time, that we began to think they were all dead and buried with their mammoths of old. But this shows that they still appreciate them tolerable fairly, though the prices, except in two or three instances, are not what they out to be to remunerate good breeders. However, there seems to be a little waking up in these matters now. We never had so many enquiries for good stock, as during the past year, nor have so many improved animals been sold throughout the country to our knowledge, in a single year of the last ten, as in 1849.

LATE SOWED WHEAT in Maryland and farther South, is not so likely to be attacked by the fly as early sowed. But late sowing will not do so well at the North, for it must have time to root and tiller before the severe early frosts set in; besides wheat at the North is not liable to be attacked by the fly in autumn, it is only in the summer season that this pest injures the plant.

THE SPANISH FOWL.

SYNONYMS.—*Gallus gallinaceus*, of Naturalists; *Gallo andaluz*, of the Spaniards; *Minorcas*, in North Devon, in England; *Portugal Fowl*, *Spanish Fowl*, *Black Spanish Fowl*, of the English and Anglo-Americans.

This is a noble race of fowls, possessing many great merits; of spirited and animated appearance of considerable size, excellent for the table, both in whiteness of flesh and skin, and also in flavor, being juicy and tender, and laying exceedingly large eggs, in considerable numbers. Amongst birds of its own breed, it is not deficient in courage; though it yields without showing much fight to those which have a dash of game blood in their veins. It should be a general favorite in all large cities, for the additional advantage that no soil of smoke or dirt is apparent on its plumage.

The thorough-bred birds of the fancy should be entirely black, as far as feathers are concerned, and when in high condition display a greenish metallic lustre. The combs of both cock and hen are exceedingly large, of a vivid and most brilliant scarlet, that of the hen drooping over on one side. Their most singular feature is a large, white patch, or ear lobe, on the cheek, of a fleshy substance, similar to the wattles, which are small in the hens, but large and very conspicuous in the cocks. This marked contrast of black, bright-red, and white, makes the head of the Spanish cock as handsome as that of any other variety; and in the genuine breed, the whole form is equally good; but the scraggy, long-legged, mis-shapen mongrels often met with are enough to throw discredit on the whole race. Some birds are occasionally produced handsomely streaked with red on the hackles and back. This is no proof of bad breeding, if other points are right.

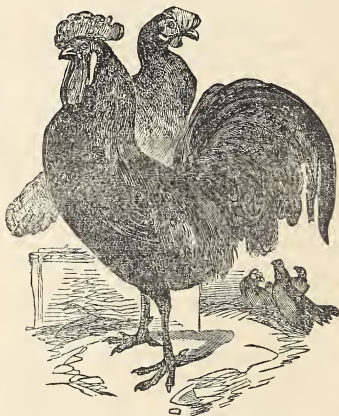
Spanish hens are also of large size and good figure, and are celebrated as good layers, producing very large, quite white eggs, of a peculiar shape, being very thick at both ends, and yet tapering off a little at each. They are by no means good mothers of families, even when they do sit, which they will not often condescend to do, proving very careless, and frequently trampling half their brood underfoot. But the inconveniences of this habit are easily obviated by causing the eggs to be hatched by some more motherly hen.

It has been noticed that this variety of fowl frequently loses nearly all the feathers on the body, besides the usual quantity on the neck, wings, and tail; and if they moult late, and the weather is severe, they feel it much. Nothing else can reasonably be expected to take place with an "everlasting layer." It often happens to the Guinea fowl; and the reason of it is plain. If the system of a bird is exhausted by the unremitting production of eggs, it cannot contain within itself the wherewithal to supply the growth of feathers. The stream that will fill but one channel cannot be made to keep two at high-water mark; and therefore, Mr. Leonard Barber, an English author, justly observes: "With regard to an anxiety about their constant laying, in my opinion nature ought not to be

forced, as it requires a rest." But some people think it cannot be right if their hens do not lay every day.

It is doubtful whether they would readily become acclimatized in the northern parts of the United States, for continued frost, at any time, much injures their combs; frequently causing mortification in the end, which has terminated in death. A warm poultry house, high feeding, and care that the birds do not remain too long exposed to severe weather, are the best means of preventing this disfigurement.

The chicks are large, as would be expected from such eggs, entirely shining black, except a pinafore of white on the breast, and a slight sprinkling under the chin, with sometimes also a little white round the beak and eyes; legs and feet black. They do not get perfectly feathered till they are three fourths grown; and, therefore, to have these birds come to perfection, it is



THE SPANISH COCK AND HEN.—FIG. 10.

preferable to have them hatched early in spring, so that they may get well covered with plumage before the cold autumnal rains.

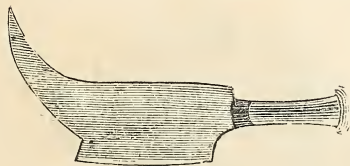
The black, however, is not the only valuable race of Spanish fowls, although certain London dealers, who have no right to offer an opinion, if they do not choose to give information on the subject, presume to affirm that there can be no such breed as "speckled Spanish," it being characteristic of that breed to be perfectly black; still there are some breeds, in Spain, closely allied to these which are of a blue, grey, or slaty color. Their growth is so rapid, and their eventual size so large, that they are remarkably slow in obtaining their feathers. Although well covered with down, when first hatched, they look almost naked when half grown, and should, therefore, be hatched early in the spring.

The above, together with the cut, we take from the American Poultry Yard, an elegant and appropriate work just published by C. M. Saxton, of this city.

We have no experience in this kind of fowl ourselves, but some of our friends in this neighborhood have imported them direct from Spain, and esteem them highly, having been quite successful in their breeding. They are larger than common fowls, are in good shape, and have a fine noble appearance. They make a capital cross on the larger breeds, especially with the Malays and Javas, which they scarcely deteriorate in size, yet greatly improve in form. The only objection our friends make to the Spanish fowl, is their large comb and wattles, which sometimes injure the birds when severely frozen; but as this is a highly ornamental and distinguished point with them, they dislike to cut it off. It would be an excellent breed for the south, as its comb and wattles are in no danger of being frozen in that mild climate.

PRUNING.

The manner in which farmers usually prune their fruit and ornamental trees is so barbarous, that they often do them more injury than good.



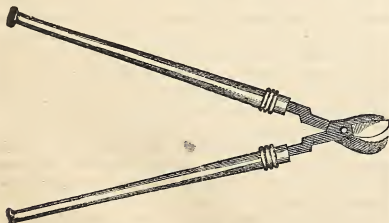
BILL HOOK.—FIG. 11.

The sole implement which they generally use for this purpose is, the common woodman's axe—a capital tool in its way—but too heavy and rough cutting for nice pruning; for this reason it should be discarded entirely, and a wide-set and very narrow carpenter's saw substituted for removing the larger limbs; while for the smaller, and tall shrubbery, the best and most con-



PRUNING SAW AND CHISEL.—FIG. 12.

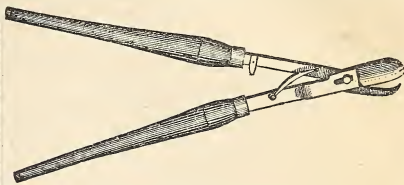
venient implements in use, are a bill hook, fig. 11, a pruning saw and chisel, fig. 12, lopping, sliding, and pole pruning shears, figs. 13, 14, 15, and 16.



SLIDING PRUNING SHEARS.—FIG. 13.

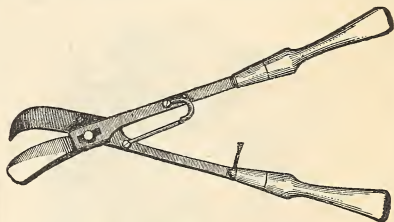
Those who have never seen a skilful pruner handle these implements among the trees and shrubbery, can have but an indefinite notion of

the rapidity, smoothness, and even elegance of his workmanship; contrasted with that of the person using only the common axe, the difference is as great as between a rough-hewed, and a finely-sawed or smooth-planed plank. Nor is



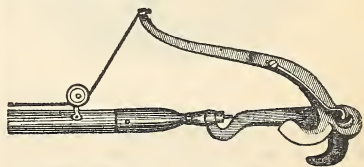
LOPPING SHEARS.—FIG. 14.

the difference less to the tree itself; for when properly pruned, the bark soon grows over the cut, and makes a smooth, healthy part of the trunk or branch. Not so, however, with the



SLIDING PRUNING SHEARS.—FIG. 15.

rough-cut. Sometimes it never grows over, and when it apparently does, it leaves that part of the tree hollow or unsound, to its lasting injury and that of the fruit.



POLE PRUNING SHEARS.—FIG. 16.

These implements can be had now at a moderate price, and when well taken care of, they last a long time. We hope that all those who cultivate fruit trees and shrubbery, will hereafter procure a good assortment of them, and take more pains in their pruning than they have hitherto been in the habit of doing.

GUANO ON WHEAT is now very extensively used in the fall, and proves to be the best and most profitable manure that has yet been applied to this important crop. Its use we understand is greatly on the increase. It may be harrowed in with the wheat, or sowed any time subsequently. It is most effectual when applied directly before a rain. From 200 to 500 lbs. per acre may be used according to the condition or fertility of the soil.

Ladies' Department.

CHAMBER BIRDS.—No. 3.

CANARIES.—FOOD AND MANAGEMENT OF ADULT BIRDS.—Except during the breeding season, the males may be kept in cages either bell-shaped or like those denoted in the cuts below. These may be made of wire, or rattan, and should be at least a foot high and eight inches in diameter, with one or more transverse perches.

The female is allowed either to have freedom in the room with her wings clipped, or is placed in a large breeding cage, possessing sufficient space to keep her limbs in constant exercise, and preserve them in health and strength.

In the bell-shaped, or smaller cages, wherein it must be understood only one male should be put, both the eating and drinking vessel must be placed on the outside, at the extremities of the lower perch. These should be surrounded by a

cap of tin, so that the bird may not easily scatter its food. Cleanliness will often prevent these delicate songsters from suffering many disorders, and it is very desirable that the floor of the cage should be made moveable, that it may be more easily cleansed and strewed with coarse sand.

Being naturally inhabitants of a warm climate, and rendered delicate by constant residence in rooms, and so, in a manner habituated to a temperament similar to that of their own country, great care is necessary in winter, in order that the same or a similar temperature may be preserved, avoiding the exposure to cold air, which, however, refreshes in summer, cannot be otherwise than prejudicial to them, causing sickness and even death. To keep these birds in a healthy and happy frame, it is very important to observe that, in summer, they must be frequently hung in a cage in brilliant daylight, and if possible, placed in the warm sunshine, which, especially when bathing, is very agreeable to them.



CANARY BIRD CAGES.—FIGS. 17 AND 18.

The most important consideration in the management of the Canary is his food. The more simple and true to nature this is, the better does it agree with him; whereas, when too artificially compounded, it renders him sickly and weak. The best food is the "summer rape seed," which is sown in spring. This is distinguished from the "winter rape seed," which is sown in autumn, by being larger and of a darker hue. On this diet, these birds thrive very well, but it should be occasionally intermixed with some crushed hemp seed and Canary seed, for the sake of flavoring it; and this more especially in the spring, when they are intended for breeding. As a treat, we may occasionally give them a mixture of summer cabbage seed, whole oats, or oat meal, with millet or some Canary seed. Here, as in most other cases, we should strive to imitate nature.

The hen Canaries may likewise be supplied with the same kind of food as the males; but in

winter, they are content with bread, containing no salt, or merely barley groats, moistened in milk, if given to them fresh every day, without being sour. Besides, both males and females may be given, in summer, some green lettuce, cabbage, groundsel, and water cresses, which must be previously washed and cleansed from anything prejudicial; and in winter, they may be fed with pieces of sweet apples. They require fresh water daily, both for drinking and bathing; and at moulting time, a rusty nail should be occasionally placed in their drinking vessel, as this tends to strengthen the stomach.

The above-named kinds of food, are for a full-grown bird; but the young require different nourishment, at least, as long as they need parental care.

As soon as the young are hatched, the old birds should be supplied with one fourth of a hard-boiled egg, minced very fine, with some roll, or bread, containing little or no salt, steeped

in water, the latter of which should be squeezed or pressed out again. In another vessel, some boiled rape seed should be placed, which has been re-washed in fresh water, to take away the acidity. Some use crackers instead of bread, but this is unnecessary. It is merely requisite to see that this soft food does not become sour, otherwise it will kill the young, and the cause remains unsuspected. Some persons merely give them their usual food, intermixing it with some finely-powdered crackers and hard-boiled eggs, but it has been found by experience, that the diet prescribed above is more efficacious, especially until the young are fledged.

It is now that the male takes the chief part in rearing the young; and upon him devolves the duty of feeding them, in order to allow the female to recover from the exhaustion she has received from incubation.

If it is necessary to feed the young by hand, grated roll or pulverized dry crackers is taken, mixed with pounded rape seed, and kept in a box. As often as it is necessary to feed them, a little of it is moistened with some of the yolk of an egg and water, and given to them from a quill pen. This must be done ten or twelve times a-day; about four penfuls is the quantity necessary for each meal.

Up to the twelfth day, the young remain almost naked, and require to be covered by the female; but after the thirteenth, they will feed themselves. In cold, dry years, however, it sometimes happens that the birds get scarcely any plumage at all. When they are a month old, they may be removed from the breeding cage. With the usual food of the old birds, they must be fed for some weeks upon the kinds above named; for, the sudden removal from soft food often occasions death, especially in moulting. It is asserted, and not without reason, that those Canaries which are reared in an arbor, where they have space to fly about within an enclosure of wire, are longer-lived and stronger than those which are reared in a chamber.

It is a curious fact, perhaps not known to every one, that, when there are two females with one male in a cage, and one dies, the other, if she has not already sat, will hatch the eggs laid by her co-mate, and rear the young as her own; and, during this foster-mother's care, cautiously avoid the caresses of the male!

When the young birds can eat alone, say at the age of thirteen or fourteen days, and often before quitting the nest, the males commence warbling, and the females also, but less connectively, and from this, the sexes may be distinguished. To teach a young Canary to sing, he must now be separated from his comrades, as well as from other birds, and placed in a small wire cage, which, at the commencement, must be covered with linen, and subsequently, by degrees, with thicker woollen cloth, when a short air, or other musical piece, must be whistled to him, or a flute or a small organ may be used. This lesson should be repeated five or six times a-day, especially mornings and evenings, and in five or six months, he will be able to acquire the air, according to the power of his memory.—*Americanized from the German.*

TO CURE BURNS.

TAKE soot from a chimney or stove where wood has been burned, pulverize it finely, and mix with lard or any fresh grease in the proportions necessary to form a soft mixture. Spread this on linen cloths and apply without delay, carefully covering from the air. The bandage may remain until the burn is healed, which is generally effected without any subsequent scar. When the application is prompt, and no vital part affected, the relief is almost instantaneous, and the cure speedy and certain. This has been tested in numerous cases under our own observation, and it has been known to restore to life a child who had been scalded from head to foot in a steamboat explosion, and who was laid aside as a case past hope. Even when the injury has occurred a day or two previous to any knowledge of the cure, it has proved soothing and effectual.

Flour spread upon a bandage and closely bound over the affected part is recommended by the best practitioners. A thick wadding of cotton is also a good application, though we prefer the first to any other remedy.

If blisters appear, they should be punctured with a needle. If the dressing becomes soiled from discharges, it must be renewed. If clothing takes fire, surround the person with a hearth rug, woollen blanket, buffalo robe, or any non-combustible to extinguish the flame; and then cut, not draw off stockings and clothes from the affected limbs.

NEW FORM OF FLOWER-POTS.

ONE reason why plants, potted the usual way, do not flourish well in the house during the winter season, is the proper want of leakage, or drainage, and a due circulation of air about their roots, in consequence of the close connexion between the bottom of the pot and the shelf or bench on which it rests.

Mr. McIntosh, gardener of the Duke of



Buccleuch, has obviated the above objection by making his pots with feet, as represented in the adjoining cut. By this means, the plants get rid of their moisture, and freely receive air about their roots through the hole in the bottom of the pot.

BEEF-TEA.—Cut a pound of solid beef into very small dice, which put into a stew-pan with a small pat of butter, a clove, two button onions, and a salt-spoonful of salt; stir the meat round over the fire for a few minutes, until it produces a thin gravy; then add a quart of water, and let it simmer at the corner of the fire for a quarter of an hour, skimming off every particle of fat. When done, pass it through a sieve, which is much better than a cloth, as it does not injure the flavor. The same, if wanted plain, is done by merely omitting the vegetables, salt, and clove; the butter cannot be objectionable, as it is taken out in skimming. Pearl barley, vermicelli, rice, &c., may be served in it, if required.—*Modern Housewife.*

Foreign Agricultural News.

WE are in receipt of our foreign journals to 24th November.

Ashes dull. *Cotton* had declined $\frac{1}{4}$ d per lb., and small sales. *Wheat* and *Flour* receding in prices, and large stocks of all kinds of grain accumulating. *Indian Corn* an advance of 6d. per quarter. *Cheese* a slight advance. All other American produce dull at slightly declining prices.

Money very abundant at 2 to 3 per cent. There are nearly £16,000,000 bullion in the Bank of England, which is about \$80,000,000.

Large Geranium.—A noted grower of geraniums, who lives near Portsmouth, is said to possess a geranium which measures twelve feet round, and which has yielded, during the present season, 715 bunches of blossoms.

Victoria regia at *Chatsworth*.—This very extraordinary South-American water lily, which occupies a large tank, built for the purpose, in one of the stoves at Chatsworth, is just coming into bloom, and will probably open its first flower in the course of two or three days.

Waste of Manure.—It is computed by an English paper, that the worth of fertilizing matters discharged into the Thames through the sewers, (and totally lost,) of London, would, if saved and applied to the land, produce grain sufficient to yield 250,000,000 lbs of bread. This is "casting bread upon the waters" in a way not likely to return with blessings to the donors.

Large Yucca gloriosa.—There is now growing at New Close, the seat of Thomas Cooke, Esq., near this town, the largest specimen of the above-named plant I have yet seen. It stands 10 feet 6 inches high, the girth of the main stem being 3 feet 4 inches near the ground; and where 14 distinct heads branch off, the stem is 2 feet 8 inches round. The circumference of the plant is 32 feet round the top; and as a proof that it is in good health, there are 12 more young shoots breaking from the main stem.

Hungarian Farmers.—It is said that the celebrated patriot, Ladislau Ujhazy, (pronounced Wehazy,) late Governor of Comorn and its dependences, will soon arrive in the United States, with 96 of his compatriots. It is their intention to settle among us. Governor Ujhazy's large estate, at Budamar, was one of the best cultivated in Hungary; in fact, it was considered a *model farm*. It has been completely devastated by the Austrian armies, and is now confiscated. We hope these noble Hungarians will be successful in raising themselves up equally good estates in our own happy country. Here they will at least escape the brutal Austrian bayonet and prison.

Proposed Abolition of Bull Fights in Spain.—It is said that one of the first acts of the newly-created Junta General of Agriculture, at Madrid, will be to recommend the gradual suppression of bull fights, in consequence of their prejudicial effects upon the material interests and the morality of the country. It is calculated that 4,000 horses annually perish in Spain upon the horns of the bull, which is more than Napoleon ever had killed in nine years' warfare; and, in a country essentially agricultural, like Spain, this continued and cruel destruction of a useful animal, deprives those who dedicate themselves to the culture of the soil of a large amount of working power that might be applied to the augmentation of their prosperity. The annual destruction of 1,500 bulls in the various fights celebrated throughout the Peninsula, destroys the best working breeds, impairs the quality of beef, impoverishes the milk markets, contributes to the decadence of pastures and fields, and augments the prices of butter and milk,

which, in civilized countries, are counted amongst the necessities of life. All these considerations, and the fact that the people, by attending bull fights, acquire habits of brutality and ferocity, by becoming accustomed to scenes of bloodshed, is likely to induce the government to attend to the representations of the Junta of Agriculture.

Flax-Cotton.—It perhaps may not be generally known, even by those engaged in flax, that by completely robbing the fibre of its gum, we get immediately a fine downy material like raw cotton, only somewhat stronger. The strength of the flax is rather diminished by this process, but still the fibre is superior to cotton, and it may be passed through all the present cotton machinery in the subsequent processes. This cannot fail to be highly interesting at this moment, when we are threatened with a scarce, and consequently dear and inferior, supply of cotton; and since much flax stalk is thrown away, both at home and in India, the plant being cultivated for the seed, it follows we have here, *prime facie*, a much less expensive raw material than cotton.

The Brugmansia—the Rosa sanguinea, and China Rose.—At Gordon Castle, near Fouchabars, the seat of the Duke of Richmond, there is, at present, in the conservatory here, a superb specimen of *Brugmansia* (*Datura*) arborea, the stem of which reaches the height of twelve feet, where it branches off gracefully, forming a complete canopy over the tops of its less lofty associates. It has been in blossom since the middle of June, and even now its flowering energies do not seem to be the least impaired, for hundreds of flower buds are still in various stages of development. Associated with it, is another plant remarkable for the quantity of flowers it produces, viz: *Rosa sanguinea*—an old-fashioned plant, to be sure, but, when properly treated, one that never fails to yield us abundance of flowers. This valuable China rose is planted against a pillar; and, after being carried to a sufficient height, it is disposed on arches, over which it has a pretty appearance. From its base to the extreme points of its various ramifications, it is loaded with rich-colored blossoms.

Ghent Horticultural and Agricultural Show.—Belgium has long been celebrated for its extensive nurseries and numerous botanical gardens; but of all its cities, Ghent stands pre-eminent. The horticultural exhibition, which was held on the 16th September, at the Casino, gave ample proof of its determination to maintain the character it has so justly merited for skill and enterprise. There is perhaps no city in Europe able to compete with it in collections of palms, cycads, ferns, and pandanus, to say nothing of orchids, camelias, and azaleas, which are here propagated on a most extensive scale; the orders for camelias from England alone are supposed to average between 10,000 and 20,000 plants per annum. On this occasion every one seemed to feel it his duty to uphold the reputation of his country, and they had the satisfaction of seeing not only the noble *salons* of the Casino entirely filled with plants and fruit, but numerous collections of camelias, conifers, oranges, hardy evergreens, and flowering plants, tastefully arranged in the front and back of the building, while the amphitheatre in the rear was specially set apart for agricultural produce. The whole was well got up, and great credit is due to the managers for the taste displayed, particularly at the grand entrance, under the dome, which represented a "Jardin Anglais," composed of noble palms, conifers, cycads, camelias, and orchids. The exhibition was honored by the presence of the King, Queen, and royal family, who came in state, with the Prince Royal of Sweden, and many of the Belgian nobility. The weather was fine, and the company as numerous as the most ardent lover of flowers could desire.—*Gard. Chron.*

Editors' Table.

TO EXCHANGE PAPERS.—We shall feel quite obliged to our exchanges, if they will do us the favor to notice the *Agriculturist*, and give the terms for subscription in brief. We think they will find this a highly valuable number. It contains numerous articles, nineteen illustrations, is printed on new type, cast expressly for it, and the paper used is of a superior quality. Our illustrations cost us \$500 a-year, and other expenses are proportionately heavy. It now requires a subscription list of *ten thousand* to pay expenses of publication. For further particulars, see the article "Our Present Volume," page 11th.

WHO IS REVIEWER?—We intended to have answered this question in this number; but our visit to the "Captain," being among the last articles sent to the printer, was unfortunately left over for want of room. It will appear in February, sure.

POST-OFFICE MATTERS AND MAIL ARRANGEMENTS.—*Success of Cheap Postage*.—Maugre all the apprehensions of the croakers heretofore connected with the P. O. Department, comparatively, cheap postage is entirely triumphant. The gross revenue for the year ending June 30th, was \$4,905,176; the expenditures for the same period, \$4,470,049; while it is estimated the receipts for the current year will be \$5,783,848, and the expenses \$4,750,138. If congress and the departments could muster common sense enough to put the maximum postage at 5 cents, for the greater distances, and the minimum at 2 cents, for the least, they would soon have money to invest in the government stocks.

LARD OIL.—There seems no end to the pork statistics of Cincinnati. It is estimated that 11,000,000 lbs. of lard, or its equivalent in pork, will be used for making lard oil, the present season, in that city. Nearly one third of the raw material will be converted into stearine. At one of the lard manufactories, 600 dressed swine can be reduced to lard per day. Seven large, circular tanks hold in the aggregate 96,000 lbs. After taking off the hams, the remainder of the carcass entire is thrown into these, and steam is then admitted at a pressure of 70 lbs. to the inch, when the grease throughout the whole carcass is effectually extracted.

THE GREAT INDUSTRIAL EXHIBITION IN LONDON IN 1851.—The proposed subjects of exhibition are fourfold: raw materials, machinery and mechanical inventions, manufactures, sculpture and plastic art in general. The design is comprehensive, and there is no taste which will not find its food in such variety of store. The arrangement is progressive: it begins with the rude mass, without form and void, and ascends to the noblest conceptions of man, as far as they admit of material substance and form. It is proposed that the first quinquennial exhibition shall begin the half century, in 1851. All nations are invited without distinction or preference. The prizes are to be one money prize of £2,000, four of £1,000, one in each of the above sections, and medals, which it is hoped may be conferred by the Queen. The promoters of the splendid design feel no misgiving as to the possibility of raising £100,000, (\$500,000,) or more, for the general expenses of the exhibition; and the many influential names, both in the provinces and in the metropolis, now pledged to the undertaking, leave us at ease on this point. What more is wanting to the success of so grand and so useful a design, than the zeal of science, and the substantial encouragements of enterprise and wealth? The pecuniary amount of the prizes, not to speak of their glory, is certain to allure all nations to the arena. In that universal competition, it is impossible but that all will mutually impart something of their several excellencies; England her mechanical ingenuity, America her boldness of invention,

France her unequalled delicacy and novelty of taste, and even the least and lowest nation its traditional crafts and household lore.

GREAT SHOW OF POULTRY.—The New-England Convention of domestic-fowl breeders and fanciers, held their first show at Boston, on the 15th and 16th of November. It was a large display of various kinds, shapes, and colors. There was the magnificent swan, the superb goose, the waddling duck, the gaudy peacock, the splendid turkey, the bright Guinea hen, the strutting barn-door fowl, and the meek-eyed pigeon. From 8,000 to 10,000 persons were present, and the sales of all kinds were quite large. Cochinchina fowls, weighing a dozen pounds or so, brought from \$10 to \$20 per pair; and little Bantams, weighing only five ounces each, sold for half these prices. Among other curiosities present, was a *venerable goose*, belonging to Col. Jaques, of Charlestown, which, if we may credit the papers, has produced, in her useful life, *five thousand* descendants, each of which sold for \$5. This would amount to *twenty-five thousand dollars!* She must have laid *golden eggs* indeed, and be better stock than California mines.

GREAT POTATO CROP.—Mr. Nickerson, of Piscataquis, Me., raised 4,000 bushels of potatoes on ten acres of ground, last season. They were worth 25 cents per bushel, which would be \$100 per acre. This certainly is profitable farming.

GOOD COWS.—The cows which received the premiums of the Essex-County (Mass.) Agricultural Society, last year, gave the following products: The one which took the first premium was six years old, and of mixed breed; from 3d of June to 3d of July, she gave an average of 18 quarts of milk per day, beer measure, which yielded 10 pounds of butter per week. Her feed common pasture only. The one which took the second premium gave, from April 28th to September 28th, 2,405 quarts of milk. The one which took the third premium was eight years old, a cross of the Durham breed. She gave, from the 27th of May to the 25th of June, an average of 15½ quarts per day, which yielded a little over 2 pounds of butter per day, weighed after it had been twice thoroughly worked. In 121 days, her milk gave 192 pounds of butter. Her feed was good pasture, with 15 quarts of meal during the trial of 30 days. The one which took the fourth premium, was nine years old, and gave, in one year, 8,767 pounds of milk—probably about 4,383 quarts—or an average of about 12 quarts per day. The one which took the fifth premium, was eight years old, and afforded 15 pounds of butter in a week, in July last. Her feed common pasture, and one quart of meal per day. The one which took the sixth premium, gave 2,448 quarts of milk from April 25th to September 26th.—*The Plow, Loom, and Anvil.*

AGENCY FOR THE PURCHASE OF ARTICLES OF DOMESTIC ECONOMY, &c.—We would call the attention of our readers to the advertisement of Mr. Browne, on the following page, as affording a proper medium for obtaining almost everything required for ornament or use. His experience, as a traveller, a nautical man, and a practical engineer, as well as his knowledge of commerce, the sciences, and the arts, is a sufficient guarantee for the faithful execution of such orders as may be committed to his charge.

LARGE TURNIP.—Mr. Reuben Eaton, of this place, has raised a ruta-baga turnip that weighed, when first taken from the ground, *twenty-six* pounds. Mr. E. took the premium for the best crop last year.—*Waterville Mail.*

TO CORRESPONDENTS.—Whoever writes us a good article of a page or more in length, shall be entitled to the *Agriculturist* one year gratis.

Review of the Market.

PRICES CURRENT IN NEW YORK, DECEMBER 10, 1849.

ASHES, Pot.,	100 lbs.	\$6.62	@	\$6.69
" Pearl,	" do.	6.31	"	6.38
BALF ROPE,	" lb.	60	"	11
BARK, Quercitron,	" ton.	40.00	"	41.00
BEANS, White,	" bushel.	75	"	1.25
BEL WAX, American, Yellow,	" lb.	19	"	22
BOLT ROPE,	" lb.	19	"	11
BONES, Ground,	" bushel.	40	"	55
BREADSTUFFS, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping,	" "	09	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
" Sperma,	" "	25	"	40
" Stearine,	" "	20	"	25
CHEESE,	" "	05	"	10
COAL, Anthracite,	2,000 lbs.	5.00	"	6.00
CODFISH, American,	" lb.	11	"	13
COTTON,	" "	09	"	13
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	30	"	40
FLAX, American,	" "	08	"	09
FLOUR, Ordinary,	" bbl.	4.12	"	5.00
" Fancy,	" "	5.12	"	6.50
Richmond City Mill,	" "	6.50	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	2.81	"	3.00
GRAIN—Wheat, Western,	" bushel.	95	"	1.25
" Red and Mixed,	" "	80	"	1.15
Rye,	" "	58	"	60
Corn, Southern,	" "	55	"	60
Barley,	" "	60	"	63
Oats,	" "	40	"	48
GUANO, Peruvian,	2,000 lbs.	45.00	"	50.00
Patagonian,	" do.	30.00	"	35.00
HAY, in Bales,	" 100 lbs.	45	"	55
HEMP, Russia, Clean,	" ton.	185.00	"	200.00
American, Water-rotted,	" "	100.00	"	200.00
" Draw-rotted,	" "	140.00	"	175.00
HIDES, Dry Southern,	" "	08	"	09
HOPS,	" lb.	06	"	17
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	4.20	"	4.25
Pipes for Pumps, &c.,	" lb.	05	"	07
MEAL, Corn,	" bbl.	2.57	"	3.28
" Corn,	" bbl.	14.75	"	15.50
MOLASSES, New-Orleans,	" gallon.	25	"	30
MUSTARD, American,	" lb.	16	"	31
NAVAL STORES—Tar,	" bbl.	1.62	"	1.88
Pitch,	" "	1.25	"	1.75
Rosin,	" "	95	"	1.10
Turpentine,	" "	2.44	"	2.75
Spirits of Turpentine,	" gallon.	25	"	27
OIL, Linseed, American,	" "	70	"	75
Castor,	" "	1.50	"	1.75
Lard,	" "	60	"	70
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.25
Black-Eyed,	" 2	1.50	"	1.75
PLASTER OF PARIS,	" ton.	2.60	"	2.75
Ground, in barrels of 300 lbs.	" "	1.12	"	1.25
PROVISIONS—Beef, Mess,	" bbl.	8.50	"	11.00
" Prime,	" "	6.00	"	8.00
" Smoked,	" lb.	06	"	12
" Rounds, in Pickle	" "	04	"	06
Pork, Mess,	" bbl.	10.00	"	12.00
" Prime,	" "	6.50	"	10.00
Lard,	" lb.	07	"	07
Bacon Sides, Smoked,	" "	03	"	04 1/2
" in Pickle,	" "	03	"	04
Hams, Smoked,	" "	05	"	09
" Pickled,	" "	04	"	07
Shoulders, Smoked,	" "	04	"	06
" Pickled,	" "	03	"	05
RICE,	" 100 lbs.	2.25	"	3.62
SALT,	" sack.	90	"	1.43
" Common,	" bushel.	20	"	35
SEEDS—Clover,	" lb.	06	"	07 1/2
Timothy,	" bushel.	2.00	"	3.50
Flax, Clean,	" "	1.45	"	1.50
" Rough,	" "	1.40	"	1.47
SODA, Ash, (80 per cent. soda),	" lb.	03	"	—
Sulphate Soda, Ground,	" "	01	"	—
SUGAR, New-Orleans,	" ton.	35.00	"	37.00
SUMACH, American,	" lb.	07	"	08
TALLOW,	" "	03	"	10
TOBACCO,	" "	26	"	27
WHISKEY, American,	" gallon.	40	"	60
WOOLS, Saxony,	" lb.	40	"	40
Merino,	" "	30	"	35
Grade Merino,	" "	30	"	35
Common,	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market—1,000 Beeves, (300 southern, the remainder mostly from this state), 55 Cows and Calves, and 5,000 Sheep and Lambs.
Beef Cattle.—The supplies of Beeves are gradually diminishing as the winter advances; prices are getting a little firmer; the average of the market is \$5 @ \$7.75, at which price sales of good retelling qualities have been made. There would be about 100 head left over. The market closes dull.

Cows and Calves.—Sales at from \$20 @ \$45; demand good. All sold.

Sheep and Lambs.—Sales of Sheep at from \$1.12 1/2 @ \$4, as in quality; Lambs \$1 @ \$2.75; 500 left over.

Hay and Straw.—Sales bale hay at from 3s. 6l. @ 5s. 6l. per 100; loose from country wagons, 4s. 6l. @ 6s. Straw, \$2.25 @ \$3 the hundred buns.

REMARKS.—Cotton, Flour, Grain, and Provisions have receded slightly since our last; and, as all Europe is now at peace, and the crops have been good there the preceding year, we must look for a still further reduction of prices, though probably to only a moderate extent. This should stimulate us to manufacture everything that we possibly can for ourselves. The less we import, and the more we manufacture at home, the richer and more independent we shall be.

The weather still continues mild, and highly favorable for the sugar planters. In consequence of large numbers of squirrels emigrating south, and snowbirds, in considerable flocks, making their appearance thus early, a hard winter is anticipated by the popular sight-seers. However, about this we can tell better next spring; but it will be wise for every one to be well prepared for cold weather, and then if it does come, they will not suffer from it.

To CORRESPONDENTS.—We are much obliged for the useful variety of your communications the past month, and trust you will keep them up with equal spirit throughout the year. There is nothing like a good correspondence for an agricultural paper. Every one who contributes a page or more of good matter, will be entitled to the *Agriculturist*, gratis, for one year. Sergeant Tel-trac, and several others, came too late for this number, it having been put to press a week earlier than usual, so as to be got off before the holidays.

AGENCY FOR THE PURCHASE of Articles of Household Economy; Philosophical, Chemical, and Astronomical Apparatus; Mathematical, Surgical, Optical, Nautical, Engineering, and Gauging Instruments; Watches, Time-keepers, and Chronometers; Books, Charts, and Maps; Utensils and Materials used in Printing; Sporting Implements and Materials; Equipment for the Traveller, Voyager, &c., &c.

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All orders for goods, &c., must be addressed, *post-paid*, and invariably accompanied with the money, or a draft at sight, or otherwise acceptable, on some responsible house in Boston, Philadelphia, Baltimore, Charleston, or New York.

The direction and mode of forwarding the articles must be written out in full, in a clear, legible hand, otherwise mistakes and delays will be liable to occur; and, whenever practicable, it is desirable that they may be accompanied by a sample, or drawing, or at least a rude sketch made with the pen.

All articles will be carefully selected, packed, and shipped, or sent, agreeable to direction. Beyond this, they will be subject solely to the risk of the parties by whom they are ordered and conveyed.

Strangers, or others, visiting the city, who prefer to make their own purchases, will be directed, free of charge, to the best houses, manufacturers, or their agents, where they may examine the articles at their leisure, and select according to their own judgment and taste.

At the Agricultural Warehouse of A. B. Allen & Co.,
 189 Water street, New York.

References.

BOSTON.—Ruggles, Nourse, Mason & Co., Dr. J. V. C. Smith, Dr. Charles T. Jackson.

NEW YORK.—Harper & Brothers, Gen. A. Chandler, Superintending Agent of the American Institute.

PHILADELPHIA.—David Landreth, Josiah Tatum.

BALTIMORE.—R. Sinclair, Jr., & Co.

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BAGLEY'S GOLD PENS.—The Subscribers would very respectfully call the attention of dealers in their wares, that they have on hand a superior article of "Bagley's Improved Gold Pens," with their new style of patent holders, together with all styles of Gold and Silver Pen and Pencil Cases, of beautiful patterns, suitable for the holidays, at their warehouse, (old stand,) 189 Broadway.
 jan 3*

A. G. BAGLEY & Co.

FARM IN DUTCHESS COUNTY.—The farm of J. F. Sheafe, Esq., situated near New Hamburg, Dutchess county, seventy miles from New York, is now offered for sale. It contains about 160 acres of an excellent quality of soil, in first-rate condition, and an extensive and complete set of farm buildings. The whole will be sold together, or divided into lots to suit purchasers.

This farm can be reached in three hours from New York, by the Hudson River Railroad. The depot at New Hamburg is only one mile distant.

Gentlemen wishing to possess a first-rate farm, under a high state of cultivation, or to obtain beautiful sites for country residences, will find this one of the most desirable locations on the Hudson. The ground is elevated, and commands varied and delightful views of the river, the highlands, and adjacent villages and country. The location is healthy, the roads uncommonly fine, and good schools and churches in the immediate neighborhood. For further particulars, address

A. B. ALLEN,
189 Water st.

VALUABLE FARM AT AUCTION.—The place on which I reside, (if not before sold), will be disposed of to the highest bidder, at 10 o'clock A. M., on the 7th of March next, on the premises, on Karitan Bay, South-Amboy Township, Middlesex county, N. J., together with all the Stock, Farming Implements of the best sort, and the Household Furniture, substantial and ornamental.

The sale will be peremptory, and on the most easy and accommodating terms.

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The farm can be seen at any time, and can be approached through South Amboy, or Middletown Pt., from both which places it is equi-distant. Apply to

JOHN TRAVERS, on the premises,
or REID & CRAIG, at Middletown Point. jan 4t

IN PRESS.

THE AMERICAN POULTRY YARD: Comprising the Origin, History, and Description of the Different Breeds of Domestic Poultry, with Complete Directions for their Breeding, Crossing, Rearing, Fattening, and Preparation for Market; including Specific Directions for Caponizing Fowls, and for the Treatment of the Principal Diseases to which they are subject. Drawn from Authentic Sources and Personal Observation. Illustrated by Numerous Engravings. By D. J. BROWNE, Author of *Sylvia Americana*. With an Appendix, embracing the Comparative Merits of the Various Breeds of Fowls, by SAMUEL ALLEN. C. M. SAXTON, Publisher, 121 Fulton st.

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When designing to call at our warehouse, please to be careful and look for the right numbers, as above, otherwise impositions may be practiced upon the unwary.

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FARM FOR SALE.—The *Baury Farm* of 200 acres, belonging to David S. Mills, at Newtown, L. I., upon which he now resides, is offered for sale—the whole, or in parcels. The well-known reputation of the above farm furnishes fully its character and advantages, it being second to none in the Union; also, the entire stock, &c., belonging to the same. For terms, apply to David S. Mills, on the premises, 5 miles from Williamsburgh Ferry, on Jamaica turnpike road, or to H. Meigs, American Institute, N. Y. at 6t

COMMERCIAL GARDEN AND NURSERY. PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboreums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal accounts, while hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot, near Boston, and by the entire success of their trees transplanted thither, have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

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Price of single Power,\$80
" Thresher,\$38
" Separator and fixtures,\$7
" Bands for driving, etc.,\$5
" Wood-sawing machine, complete, and in running order,\$35

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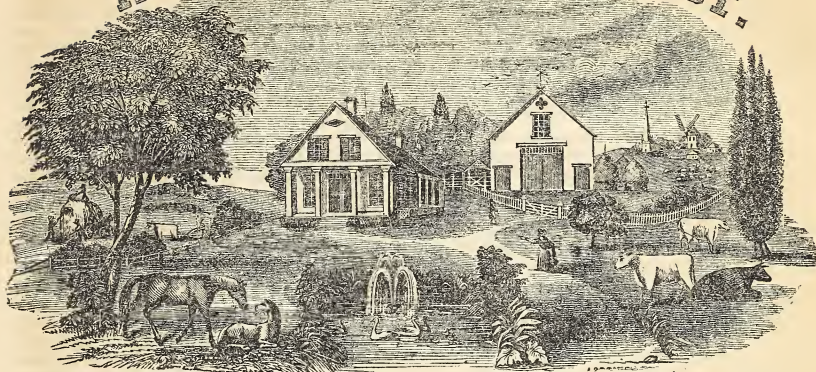
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AMERICAN AGRICULTURIST.



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A. B. ALLEN & R. L. ALLEN, *Editors.*

C. M. SAXTON, *Publisher, 121 Fulton Street.*

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IMPORTED SHORTHORNS.

The Bates Stock.—The August number of the *Agriculturist*, for 1849, contains an article on the “recent importation of shorthorns,” which does not entirely coincide with my views. The writer, referring to the bull 3d Duke of Cambridge, which he had recently imported, says: “Breeders, desiring the blood of Mr. Bates, can nowhere else, in this country, procure it with such high characteristics of style, quality, symmetry, and substance.”

Allow me here, before discussing this paragraph, to remark, that honorable competition in breeding domestic animals, cannot fail to be a fruitful source of improvement, and should be encouraged by all who desire to see the stock of our country raised to that high standard which its importance so justly merits and demands. The individual, however, who enters upon this enterprise with a desire and a determination to excel, will soon find himself surrounded with perplexities and prejudices which he little anticipated; and however desirous he may be to avoid controversy, circumstances may occur, where justice, both to himself and the public, demands that he should no longer remain silent. Experience will, also, sooner or later, prove that there is neither honor nor profit to be acquired by resorting to the frail support of either directly or indirectly assailing, or endeavoring to disparage the stock of others, by the assumption of high-sounding pretensions, which cannot bear the test of truth and scrutiny.

But to the point. I presume no one will deny, that if any one animal from a herd possesses the power of imparting to his produce “higher characteristics of style, quality, symmetry, and substance,” than any other animal from the same herd, it *must* possess more of the *choice* blood of that particular herd. To question this, is at once doubting the efficacy of *blood* animals. The most natural enquiry, therefore, which would arise from a perusal of the sentence quoted above, would be—What is the particular strain of blood in the late Mr. Bates’ herd, which is superior to *all others*, and which gave him such a deservedly wide-spread fame and reputation as a breeder? Let this simple fact be clearly defined, and if the 3d Duke of Cambridge possesses more of *such blood* than any other bull in this country, then he may be fairly entitled to his claimed position of superiority. This is a point of the greatest importance to breeders of shorthorns in this country, and *particularly* so to all who “wish to procure the blood of Mr. Bates’ herd.”

In order, therefore, to prove to the public conclusively, and to place the matter beyond the possibility of a doubt, that the *choicest blood* of Mr. Bates’ herd consisted in his *pure, unalloyed Duchess tribe*, I quote his *own opinion*, from a communication addressed to the publishers of the print of his bull Duke of Northumberland. After giving the pedigree of this bull, Mr. Bates says:

“The whole of this family of shorthorns are alone in my possession, having purchased my original cow of this tribe of cattle of the late

Charles Colling, Esq., of Ketton, near Darlington, 35 years ago; they had been in the possession of Mr. Charles Colling 20 years. He purchased his original cow from Stanwix, of the agent of the late Duke of Northumberland, and called her *Duchess*, (which is the reason I have named the bull after that family,) as they are justly entitled to be held in commemoration for having possessed a tribe of cattle, which Mr. C. Colling repeatedly assured me was the best he ever had, or ever saw, and that he never was able to improve upon her, although put to his best bulls.” And I have undoubted information from the best authority for saying, that this tribe of shorthorns were in the possession of the ancestors of the present duke for two centuries; and that Sir Hugh Smithson, the grandfather of the present duke, kept up the celebrity of this tribe of cattle by paying the utmost attention to their breeding; and that he used regularly to weigh his cattle and the food they ate, so as to ascertain the improvement made in proportion to the food consumed; a system I adopted nearly fifty years ago, not knowing that it had been previously done; and from a minute and close attention to this subject, I obtained that knowledge of cattle which enabled me to judge of their real merits by their external characters, and which I have never found to fail in my experience for above forty years as a breeder. From that knowledge thus acquired, I selected this tribe of shorthorns as superior to all other cattle, not only as small consumers of food, but as great growers and quick grazers, with the finest quality of beef, and also giving a great quantity of very rich milk. The cow I bought of Mr. C. Colling, in 1804, calved at Halton Castle, Northumberland, June 7th, 1807; she was kept on grass only, in a pasture with nineteen other cows, and made in butter and milk, for some months, above two guineas per week, or 42 shillings in English money.”

I have in this extract the opinion of Mr. Bates himself, in regard to the *Duchess* blood, as being “superior to all other;” also confirmed by the opinion of Mr. Charles Colling, who said “*It was the best he ever had or ever saw.*” Now, whether this 3d Duke of Cambridge possesses more *Duchess* blood, or, if you please, has the blood of Mr. Bates’ herd with “higher characteristics of style, quality, symmetry, and substance, than any other bull in this country,” a brief reference to pedigrees will show.

Pedigree of 3d Duke of Cambridge (5,941). Roan, calved Sept. 14th, 1841; bred by Thomas Bates; got by Duke of Northumberland (1,940); dam Waterloo II., by Belvedere (1,706); granddam by Waterloo (2,816); great grandam by Waterloo (2,816). See *English Herd Book*, vol. 4, page 614.

By this pedigree, it will be seen that 3d Duke of Cambridge possesses only *one quarter* of *Duchess* blood—his sire, Duke of Northumberland, (1,940) being a *half Duchess* bull, and his dam, Waterloo II., *having no Duchess blood in her*.

Among the individuals who have imported stock to this country from the late Mr. Bates’ herd, I believe the importations of Mr. George

Vail, of Troy, N. Y., have been the most extensive. In 1840, this gentleman imported direct from Mr. Bates, a bull calf, Duke of Wellington, (American Herd Book 55, or English Herd Book 3,654), and a heifer, Duchess (American Herd Book, page 172). Pedigree of Duke of Wellington. Roan, bred by Mr. Bates, calved Oct. 24th, 1839; got by Short Tail (2,621); dam, Oxford, premium cow, having obtained the first premium for the best shorthorn cow, open to all England, given by the Royal English Agricultural Society, by Duke of Cleaveland (1,937); grandam, Matchem cow, by Matchem (2,281); great grandam by Young Wynyard (2,859); sometimes called Young Wellington.

By this pedigree, it will be seen that Duke of Wellington was got by a *half* Duchess bull, Short Tail. So far, then, his *equality* with 3d Duke of Cambridge as to Duchess blood is established. But if we examine a little further into this pedigree, we shall find that Wellington's dam was also got by a *half* Duchess bull, Duke of Cleaveland (1,937); consequently, the produce of Wellington, from a cow without Duchess blood, would possess nearly as much Duchess blood as 3d Duke of Cambridge himself. For the purpose of further comparison, I insert, in part, the pedigree of Mr. Vail's Duchess.

White, bred by Mr. Bates, calved, &c.; got by Duke of Northumberland, out of Nonsuch II, by Belvedere (1,706); grandam, Nonsuch, by Magnet (2,240); &c. See American Herd Book, page 172.

Mr. Vail's prize bull Meteor, (104), was out of this heifer, and his sire is Duke of Wellington. He has therefore three crosses of the Duchess blood; so also have the bulls Mr. Vail has sold to Col. Sherwood, of Auburn, Col. Hampton, of South Carolina, Messrs. Ferguson and Wetenhall, of Canada West, and Thomas Hillhouse, of Watervliet, N. Y.; and another bull yet in his possession—American Comet, I believe. I might continue this account, as Mr. Vail has three more imported cows, sent him by Mr. Bates, all of which possess strains of the Duchess blood, but I deem it unnecessary.

I learn, through the agricultural papers, that the *whole* of the late Mr. Bates' herd are to be sold the coming spring or summer; and consequently the Duchess family, which Mr. Bates has always retained *exclusively* in his possession, will be dispersed into the hands of many. From the enterprise which has thus far characterised Mr. Vail, as a breeder, I sincerely hope and expect he will not let this opportunity pass without the introduction of one or more animals of the *full Duchess blood* into his herd. He has already done much to bring this Duchess blood into deserved reputation in this country; and the benefit which its introduction has conferred upon other Durhams, which have received only a single cross of this strain of blood, is immense. I hope he will now introduce it *without alloy*; and I confidently expect the day will not be far distant, when the price of American shorthorns will compare favorably with the high sales of this stock in England.

S. P. CHAPMAN.

Clockville, Madison Co., N. Y., Dec., 1849.

HOUSES FOR THE POOR.

An announcement has recently been made of a projected plan for cottages for working men, some 15 miles from this city. The Harlem Railroad, we are informed, will run a train at very low prices to the city, at such hours as will suit laborers, going to or returning from their work; and the enterprise is led by those who will undoubtedly carry it through. It is to be hoped that in laying their plans for what must eventually be a large town, the projectors will not forget squares and front courts. Every street should form one side of a square, which, planted with trees, would prove an invaluable source of moral and physical health to the children of the poor. If the houses could be set back from the street sufficient to allow a small grass plot, it would be better still. But we think the squares essential, and we think no one can be *well*, neither morally nor physically, unless he has plenty of fresh, wholesome air. Unless arrangements for these squares are made now, in such a way that they can never be built upon, the want of good air will be as much felt in the new town, in the course of time, as it is at present in the most densely populated parts of New-York city.

The laboring classes, as we understand, are to have the opportunity of buying these small lots and tenements at moderate prices. After the town has been built up and thus occupied, land in its midst will necessarily be greatly enhanced in value. The temptation will be irresistible to the poor man to sell part of his front or the whole of his rear, to be occupied by buildings. In this way, instead of one house upon a lot, there may be a dozen; and then the air will be vitiated by the number of human beings crowded into a small space.

If, however, there should be left for their breathing, a great number of cubic feet of air in the shape of squares, this evil would be avoided, and the children having also plenty of room for play and for the development of their muscles, would grow up healthy and robust, with a fondness for trees, grass, and fresh air, with their purifying influences, which would adhere to them through life. Thus reared and educated, they could not fail to make more useful citizens and better and more enlightened men.

SOAKING CORN IN SALTPETRE.

I HAD the benefit of soaking corn in saltpetre, to plant, well tested this year, on a small piece of ground, planted late. I had not enough soaked to plant all the piece. Where it was not soaked, the blackbirds pulled out about one third; where it was soaked, they seldom touched a hill. But what was most peculiar, there happened to be one row planted with dry corn, between two rows that were soaked; of the dry, they took several hills clean, and, altogether, about one third of the row; while they did not take more than one hill of the two saltpetre rows.

JAMES C. TAYLOR.

Atlantic, N. J., Dec., 1849.

IMPROVED FARMS IN CONNECTICUT.

READING the account of your correspondent's tour through Connecticut, reminded me of a very pleasant tour I had, the past summer, in visiting Fairfield county, and witnessing the improvements that have been made in a few years, in farms, out houses, barns, &c.

The farms in the town of Norwalk have been improved very much in three years, especially those of Messrs. L. O. Wilson, T. Cook Hanford, Charles Mallory, and L. M. Stevens. Others are deserving of notice, but very few are more productive than those I have mentioned. In regard to barns and out houses, the three, first named, have all good and spacious buildings. Mr. Stevens built his barn the past summer, and it is of great capacity, being 72 by 40 ft. The interior arrangements are very complete, and the barn is well built; and, what is more, well filled. Another barn in the west part of the town deserves notice: but of the farm I cannot say much, as I know but little of it. This barn is owned by Mr. D. R. Selleck, a young man of your city; and although not so large as the one mentioned above, is one of the best built and arranged I ever saw. It is situated on a side hill, and has a cellar underneath, of the full size of the barn. This is used for stables, storage, &c. I understand the barn was built by Wm. Thomas Craw, a young mechanic of that town, who stands at the head of his profession. This building is also well filled with hay and grain, the products of his farm, which has been brought to a good state of cultivation, by the use of compost, made of muck out of his pond, where there is at least 1,000 loads, a portion of which is transferred to his land every year. All are using more or less artificial manures, and are receiving benefits from them. W. E.

THE WEEPING CYPRESS.

THIS splendid tree has been recently introduced into England from the East. Imagine an evergreen weeping willow, with compact habit and close, feathering foliage, like the little cypress vine, and you will have some conception of the beauty of this tree as we have seen it described. If our little plant, of four inches, which has just reached us, at a cost of some ten dollars, ever makes itself into a tree, we can perhaps describe it better from personal knowledge. There can be little doubt, however, that it will prove one of the greatest acquisitions to our list of hardy evergreens.

AGRICULTURAL EDUCATION.—No. 1.

THERE seems a disposition in many parts of the country to agitate this subject; a state of feeling that shows very clearly two things—a marked and decided interest in agriculture as an art, and a rising and increasing power among farmers as a class. I am inclined to think, however, that the term is a bad one. Agricultural education means, that training which fits men for the practice of agriculture, in the same way as we say a medical education, or a legal, as implying a training for either of the professions of medicine or law. But, as I understand those

who come forward in this important matter, they mean something more than a mere instruction in the practical part of agriculture, and design and desire such instruction as will prepare those who make agriculture the business of their lives, for the social, political, and moral position which belongs to the dignity of their occupation, and attaches to them as the great, controlling force of their country. This is something more than an agricultural education, and the term should be changed to that of "Education for Farmers."

Now, what does this mean? Does it mean that farmers are a peculiar class, and require something more or something less than the rest of their fellow citizens, to make them valuable members of this republic? Perhaps there are very few who will think that they require a higher discipline than any other portion of the country; but I have no hesitation in saying, and it is dictated by both head and heart, that they require, positively and necessarily, a higher order of mental and moral training than any other class of men. And why? Simply, because they wield the whole moral strength of this republic. They shape its destinies, they create its character, and they control its conduct. They are, too, its court of last appeal, when misfortune or ruin hangs over it. Holding this important rank, who can doubt or deny that they should receive an education that fits them for its duties? But how are they to get it? Here we meet the difficulty that all must encounter, who wish to improve the intellectual condition of the farmer.

Our colleges are too expensive, and so are all those institutions that are much above the common schools of the country; and it is very possible that very few would suppose a collegiate course necessary, or even fit, for a working man. It is certain that they are neither necessary nor fit; but without them, we are thrown back on the common country schools, as the sole means of instructing this large and important body. Granting this, it is very clear that no mode at present exists of giving them increased knowledge, but by giving more efficiency to these schools; and this does not involve a question of propriety, nor even necessity, but of power; or, in other words, Have the larger number of states, as yet, the monied wealth on which to draw, to pay the increased expense that must come with the requiring teachers of high attainments, and all the apparatus with which they are to act? With the exception, perhaps, of Massachusetts, there is no state altogether willing nor able to adopt so expensive an education as a general system. There is, therefore, nothing to be done at present but to make use of such means as are within our reach.

But there is another question to be considered, which has never yet been fully examined. It is the simple one, What is education? People, in general, assume it to mean a certain amount of intellectual attainment—of arithmetic, mathematics, or classics. This seems a great and serious error, as it appears to lose sight of by far the highest and most important part of education—its moral training. It should never be forgotten that it is the principles which are

planted in the mind, which are of infinitely more importance to the individual and to society, than all the culture of the intellect which can be imparted, or which the strongest mind can attain. A man may be a great scholar, a mathematician, or full of learning and genius in all their most wonderful degrees; but if the question—Is he an honest or good man? cannot be answered in the affirmative, of what avail are they all? A man is not to be measured by his capacity for mischief, nor respected for the loftiest intellectual gifts, if they are perverted to the wrong and ruin of his fellow creatures. There seems, fortunately, in the human character, a power of rejecting what is bad. Men may be dazzled and fascinated by the brilliant efforts of great powers; but they learn after a time to regard them as the glare of a volcano, and look around, when the feeling of admiration has passed away, with horror on the waste and desolation they have left.

There is evidently, then, a craving for moral attainment in the human heart, as strong, or stronger, than for the intellectual in the human mind. It may not be so keen and active, and it may be overcome by the passions; but in the end it counterbalances the bad effects, and all the dangerous influences a perverted but brilliant mind may have wrought. Instead of looking merely to the accomplishing of the mind, we must, besides this, bend every effort to the cultivation of the moral sentiments.

A. L. ELWYN.

Philadelphia, January, 1850.

THE JAPAN CEDAR.

The severity of our winters, in this country, deprives us very much of the various beautiful evergreens which grace the parks and gardens of Europe, and form these beautiful appendages to a winter landscape. With the exception of the *euonymus cotoneaster*, and a few other shrubs, our hardy evergreens are mostly coniferous, and among these there are few more beautiful than the Japan cedar.

Although noticed by Professor Thunberg as early as the year 1784, it has been introduced into England and this country only within a few years. It is found on the mountains of Nagasaki, in Japan, and its soft wood is much used by the Japanese for cabinet work. It was also found by Fortune about Shanghai, in the north of China, where it had probably been introduced from Japan. In Shanghai, it is perfectly hardy, with the thermometer at five degrees above zero, and it has endured the winter in the vicinity of Boston. In its native habitat, it grows to the height of 60 to 100 ft., with a pyramid-shaped head, and rather erect or horizontal branches. Its leaves are stiff and close upon the branches, which latter are not very numerous. For rapidity of growth, no evergreen can compare with it; and its graceful, as well as unique appearance, render it very desirable to every lover of fine trees. Beautiful as it is, however, we have not yet seen any specimen that quite equals the *Cedrus deodara*.

THE DEODAR CEDAR.

This tree is now becoming quite abundant, and is beginning to be widely disseminated. We have a specimen on our lawn some 8 or 10 ft. high, which we deem the most beautiful coniferous evergreen we have seen. Its form is something like that of the Norway spruce, but in habit and character totally dissimilar. Its foliage is of a bluish tint, and its young branches have a graceful, drooping character, that often reminds one of a fountain in full play. In fact, it would form an unrivalled back ground for a fountain, the white spray of which would be finely relieved against the dark, bluish-green of its foliage. It has another peculiarity which enhances its value. Unlike other coniferous trees, which frequently become rusty the latter part of the summer, it continues to grow until cold weather; and there being thus always an abundant supply of succulent wood, it retains a fresh, lively green until ice makes its appearance. For single specimens for screens, or for masses, it is a most valuable tree; but in all its beauty, it bids fair to be surpassed by the weeping cypress.

WHAT IS A FAIR RENT FOR DAIRY COWS?

WHAT is a fair average number of pounds of butter per annum to be expected from a common lot of dairy cows in this country?

A proprietor of land, in Orange county, proposes to rent me his farm next spring, with fifty cows, for which I should engage to give him a certain number of pounds of butter per head. Can you inform me what is a fair rent? I am satisfied with the terms of giving one third of the crop for rent, but fear to accept his terms for the cows.

A STRANGER IN AMERICA.

The average annual yield of pounds of butter per cow, is a very uncertain matter. We doubt whether it exceeds one hundred pounds per cow in Orange county; though we believe that two firkins, (160 lbs.), is considered a fair average. We know one lot of ten cows that average three firkins each, equal to 480 lbs. per annum. We believe the most usual rent is one firkin for each cow. We saw a lot of fifty excellent cows, the other day, for which the farmer gives the proprietor a rent of 67 lbs. each per annum. In this instance, the farm is very productive for grass, and the dairy conveniences of the best kind. When this is not the case, the lessee cannot afford to pay so high a rent.

FARMING OF MR. HANGCOCK.

Guano—How Applied.—Thomas Hancock, of Burlington, N. J., makes his guano all fine by riddling and pounding lumps, and then sows from 300 to 400 lbs. per acre upon wheat land, in September, and immediately harrows it in. Then he spreads six to twelve loads of manure to the acre, and plows it in lightly, and harrows the ground to level it, and then drills in wheat, five pecks to the acre, about the 15th of October. This ripens about the first of July, and the average yield for five years, has been

twenty bushels to the acre. The largest crop, thirty-seven and a half bushels.

Sowing Grass Seed.—This he does in the fall, or spring, upon the growing wheat, at the rate of five quarts each of Timothy and clover to the acre. Continue in grass four or five years, and then corn, potatoes, peas, and wheat.

Average Crops of Corn, for five years, 35 bushels; oats, 50 bushels; potatoes, 100 bushels through the county, and 200 bushels of sweet potatoes.

He Uses Manure for Potatoes, peas, and wheat, but not for corn. He spreads 50 bushels of unslacked lime on the acre, in April or May, upon corn land, either before or after planting, as convenient. He turns clover, Timothy, and orchard-grass sod six or eight inches deep in the fall, and harrows or plows two light furrows together, to plant corn. His soil is a sandy loam, made rich by lime and manure, and a regular rotation of crops.

AGRICULTURAL CHEMISTRY.—No. 17.

WHAT I have already said concerning the composition of farmyard manure and its decomposition, will lead you to infer that one portion must descend, and another ascend, while undergoing this last process. If it be plowed under the surface, the saline portions will be dissolved by the action of rains, while the gaseous portions will ascend, and either be absorbed by the earth above, or rise into the air. This last result must ensue when the manure is spread upon the surface, so that, in this case, little benefit can be obtained from its ammonia or carbon; as these, (with the exception of such portion as may chance to be washed into the earth with rain,) will pass into the air and be lost.

But in loose, porous soils, the saline parts may descend with the water in which they are dissolved, to such a depth as to be below the reach of the roots of plants. It is, however, contended by some eminent agriculturists, that the tendency of even these portions is upwards, and that the surface will be enriched by them when they lie buried several feet beneath. As there are some very respectable advocates for this theory, who bring facts and experiments from their own observation and experience, to confirm their position, I do not feel at liberty to say it is not so; for it is possible that the salts, after being dissolved, may rise on the principle of capillary attraction; though it is quite probable that, in the experiments which have been made on this point, the gases have acted a more important part than they have received credit for. The question is an important one, and it is to be hoped that it may be soon satisfactorily decided.

But even if the theory of the ascension of manures be incorrect, it does not follow that it is more advantageous to apply it on the surface than to plow it under; as in the former case, it must be continually giving to the air those gases which act as valuable fertilizers when present in the soil.

There is still much to be learned in the science of agriculture, as well as much that ought to be *unlearned*, in the present mode of practice. No

one, therefore, need be deterred from experimenting and investigating by the thought that there are no new discoveries to be made, nor no new principles to be established. I have no doubt the time will come, when an acre will be made to produce twice as much as it now does, without any more labor or expense in cultivating than is now bestowed upon it—a result which will be brought about by the superior management of a more enlightened age.

Trusting that what I have already written will suffice as an introduction to the study of agricultural chemistry, and serve to remove the first and most formidable difficulty which the student has to encounter in mastering technicalities, I will now close my series of letters. To those who desire to pursue the subject further, I would recommend the reading, or rather *study*, of Johnston's Agricultural Chemistry, a work replete with the most valuable practical instruction.

J. MCKINSTRY.

Greenport, Columbia Co., N. Y.

SAVING MANURE.

A Southern Example, worthy of Northern Imitation.—My friend Mr. Keeling, who keeps that excellent house at Norfolk, the National Hotel, has lately bought a farm near town, which he is determined to enrich, and this is one of the methods he has taken. He has all the ashes from the hotel, which are made from bituminous coal, put into a pit, and upon this all the urine, soap suds, and dish water is thrown as long as it will absorb it, and the mass is then hauled out and spread upon the land.

In the privy vault, he has a layer of soil spread every week, to which is added a sprinkling of plaster and dissolved coppers, sufficient to absorb all the ammonia. After a time, that is all taken out and spread upon the land, without its being at all offensive to handle. Every dead animal that comes within his reach is buried in a pile of weeds, straw, trash, earth, or swamp muck, to fertilise the mass, and in its turn, fertilise the soil. He has lately planted 3,000 bushels of oysters, for the use of the hotel, the shells of which, bye and bye, will be burnt, and spread upon the land. He is also preparing to grind plaster, which is brought here as ballast, and can be had for seventy-five cents to a dollar a ton. And with these appliances he is determined to raise grass, notwithstanding the unfitness of that crop in all the south.

Now, this gentleman is not a practical farmer, but derives his ideas from reading, reflection, and common sense; and I leave it to any one possessed of a small share of this latter commodity, to say if his ideas are not of a more common-sense character than many farmers have, who call themselves wholly practical.

CURE FOR HYDROPHOBIA.—M. Rochet d'Hericourt, a French traveller in Abyssinia, found a plant there, which is said to be effectual in curing this fatal disease. While there, he saw it administered to a soldier and three dogs laboring under

hydrophobia, and it cured them. The plant grows in the low, warm, and sandy loams of that country.

MOWING MACHINE.

WE know of no machine more likely to ensure a fortune to its inventor, than a perfect mowing machine. One was invented and put into operation by Mr. Ketchum, of Buffalo, some two years since, which did not at first work well, but which, we understood, with a subsequent improvement, received the approval of several intelligent and practical men at the state fair a year since.

We have had numerous inquiries for a mowing machine, and have referred to this as the only one within our knowledge; and yet this does not seem to be working into favor nor use. Will not some of our ingenious mechanics undertake this subject and invent one?

Messrs. Hussey and McCormick, both inventors of successful reaping machines, claim the applicability of their reapers to mowing. Let them or any person demonstrate the practicability of mowing economically and rapidly by machinery, and we will guarantee the sale of hundreds annually, at fair prices.

DIRECTIONS FOR HATCHING CHICKENS.

THE following extract from Browne's "American Poultry Yard," lately published by C. M. Saxton, we trust will be acceptable to our readers, particularly as the season for hatching chickens is close at hand:—

A hen prompted by instinct to the task of incubation, asks only for eggs suited to her size, be they those of her own production or not, (those even of a duck will be accepted,) a nest, and undisturbed solitude. At this juncture, she utters an instinctive cluck, ruffles her feathers, wanders about, searches obscure corners and recesses, and is evidently ill at ease. She is feverishly hot, impatient, and anxiously restless. In high-fed hens, this instinctive desire comes on sooner than in such as are not supplied with food in abundance, and it may be induced by stimulating diet, a little raw liver or fresh meat, chopped small, potatoes mashed warm, with milk and Indian meal. Some farmers recommend a fomentation of vinegar in which pepper has been steeped, to be applied to the under parts, as a means of inducing this desire; and others even advise that some of the feathers of the abdomen be plucked off, and the skin stung with nettles! Such means may induce fever, and a desire to cool the inflamed skin by applying it to cool substances, but not a genuine natural impulse to fulfil the great law of nature. Let them never be put into practice. They are barbarous and contemptible. By high feeding, some hens, especially of the Dorking breed, which, as sitters, take the pre-eminence over all other breeds, may be induced to sit in October, especially if they have moulted early. Advantage may be taken of this circumstance, at the south, and chickens may be obtained fit for the

table by Christmas—not, however, without great care and trouble. The incubation must take place, and the chickens be reared and fed, in a warm room, if necessary, kept at an equal temperature. Generally speaking, spring chickens are more desirable, which should be hatched in January, so as to be ready for the market in the latter part of March, and through the months of April, May, and June. They require great care, but they return an ample profit.

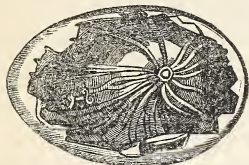
The most usual time in which hens manifest a desire to incubate, extends from March to May or June, and at this season chickens may be reared without any extraordinary precautions.

When the determination to sit becomes fixed,—there is no need to indulge the first faint indications immediately—let her have the nest she has selected well cleaned and filled with fresh straw. The number of eggs to be given to her will depend upon the season, and upon their and her own size. The wisest plan is not to be too greedy. The number of chickens hatched is often in inverse proportion to the number of eggs set. I have known only three to be obtained from eighteen. Hens will, in general, well cover from eleven to thirteen eggs laid by themselves. A Bantam may be trusted with about half a dozen eggs of a large breed, such as the Spanish. A hen of the largest size, as a Dorking, will successfully hatch, at the most, five goose eggs. But if a hen is really determined to sit, it is useless, as well as cruel, to attempt to divert her from her object. The means usually prescribed are such as no humane person would willingly put in practice. If the season is too early to give a hope of rearing gallinaceous birds, the eggs of ducks or geese may generally be had; and the young may be brought up with a little pains-taking, as well as by their natural parent. And if it be required to retain the services of a hen for expected valuable eggs, she may be beguiled for a week or ten days with four or five old addled ones till the choicer sort arrive.

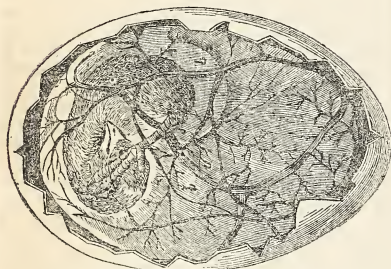
Three weeks is the period of incubation of the common hen. Sometimes, however, when she does not sit close for the first day or two, or in early spring, it will be some hours longer; more frequently in our southern climate, when the hen is assiduous and the weather hot, the time will be a trifle shorter. But in cases of artificial incubation where the eggs are uniformly kept at a temperature of from 101° to 102° F., the period is sometimes hastened forty-eight hours. The range of temperature, within which the eggs will hatch, varies from 95° to 106° F. Towards the close of incubation, the process may be suspended for one or two hours, or even for a longer period, according to the degree of extraneous heat which the eggs may derive from their situation, without fatal consequences to the embryo chick.

The growth of the chick in the egg has been so fully and so well described by many writers, from Aristotle down to Reaumur, that I need merely refer the reader to them. The observations of the latter, particularly, have appeared in almost every compilation that has been published on the subject; and I think it much better

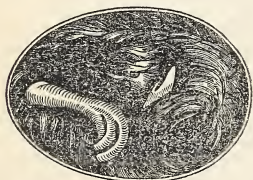
taste for common inquirers to betake themselves to such sources of information, illustrated as they are by good engravings, than to desire that a set of half-hatched eggs should be broken to gratify their curiosity. A shattered and imperfectly-formed chick, struggling in vain in the fluid that ought to perfect its frame, till it sinks in a gradual and convulsive death, is a horrible spectacle, though on a small scale. To gratify the curious reader, I present below three cuts illustrating the first, middle, and last stages of incubation.



FIRST STAGE OF INCUBATION.—FIG. 20.



MIDDLE STAGE OF INCUBATION.—FIG. 21.



CHICK JUST BEFORE HATCHING.—FIG. 22.

Shortly before the time of hatching arrives, the chickens may be heard to chirp and tap against the walls of their shell. Soon a slight fracture is perceived towards the upper end, caused by force from within. The fracture is continued around the top of the egg, which then opens like a lid, and the little bird struggles into daylight. The tapping which is heard, and which opens the prison doors, is caused by the bill of the included chick; the mother has nothing to do with its liberation, beyond casting the empty shells out of the nest. At the tip of the bill of every new-hatched chick, on the upper surface, a whitish scale will be observed, about the size of a pin's head, but much harder than the

bill itself. Had the beak been tipped with iron to force the shell open, it would not have been a stronger proof of Creative Design than is this minute speck, which acts as so necessary an instrument. In a few days after birth, when it is no longer wanted, it has disappeared; not by falling off, which would be waste of valuable material, but by being absorbed and becoming serviceable in strengthening the bony structure, minute as the portion of earthly substance is. And yet some people direct, that as soon as the chick is hatched, this scale should be forced off with the finger nail, because it is injurious!

All chicks do not get out so easily, but may require a little assistance. The difficulty is, to know when to give it. They often succeed in making the first breach, but appear unable to batter down their dungeon walls any further. A rash attempt to help them by breaking the shell particularly in a downward direction towards the smaller end, is often followed by a loss of blood, which can ill be spared. It is better to wait awhile and not interfere with any of them, till it is apparent that a part of the brood has been hatched some time, say twelve hours, and that the rest cannot succeed in making their appearance. After such wise delay, it will generally be found that the whole fluid contents of the egg, yolk and all, are taken up into the body of the chick, and that weakness alone has prevented its forcing itself out. The causes of such weakness are various; sometimes insufficient warmth from the hen having sat on too many eggs; sometimes the original feebleness of the vital spark included in the egg, but most frequently staleness of the eggs employed for incubation. The chances of rearing such chicks are small, but if they get over the first twenty-four hours they may be considered as safe. But all the old wives' nostrums to recover them are to be discarded; the merest drop of ale may be a useful stimulant, but an intoxicated chick is as liable to sprawl about and have the breath trodden out of its body as a fainting one. Pepper corns, gin, rue, and fifty other ways of doctoring, are to be banished afar.

The only thing to be done, is to take the chicks from the hen till she is nestled at night, keeping them in the meanwhile as snug and warm as possible. If a clever, kind, gentle-handed little girl could get a crumb of bread down their throats, it would do no harm. Animal heat will be their greatest restorative. At night, let them be quietly slipped under their mother; the next morning they will be either as brisk as the rest, or as "flat as pancakes."

Now I am on the subject of hatching, I may as well refer to the perplexity to which poultry keepers are sometimes subjected, when hens *will* sit, at seasons of the year at which there is little chance of bringing up chickens. Some advise the hens to be soaked in a pail of water, cold from the pump; but if they have a mind to kill her, it is more cruel to do so by giving her fever and inflammation of the lungs, than by simply knocking her on the head. A less objectionable remedy, is the following:—"I have known one or two doses of jalap relieve them entirely from

a desire to sit; and in my opinion it is far better than the cold-water cure. I have known English fowls lay in three weeks afterwards.* But why not let the poor creatures obey their natural propensity? Or, surely, some neighbor would gladly exchange a laying hen for one that wanted to sit. Others, borrowing an ancient piece of barbarism, recommend a large feather to be thrust through the nostrils; that she may rush here and there in terror, and give up all thoughts of sitting. The wisest way is to guide, instead of thwarting the impulse of nature. Let your good hen indulge the instinct implanted in her by a Wiser Being than you; give her a sitting of duck's eggs, and unless the winter or spring be extraordinary severe, you must be a bungler if you do not rear them by the aid of bread crumbs, Indian meal, and a kitchen fire.

* Dixon.

DIMENSIONS OF A CART TO HAUL SHOCKS OF CORN.

ONE of the best labor-saving implements that we know of, is only in use upon a few New-Jersey farms. It is very simple in its construction and effective in its operation. A large shock of corn can be picked up with it by a boy a dozen years old, and carted a mile and set down again, just as it stood in the field. It is, perhaps, most useful in hauling off corn from ground which is to be sown in wheat; though two men and two carts of this kind, will bring corn a mile to the barn, faster than with a wagon; and then the shocks may be set down compactly in the yard until wanted to husk the corn. It certainly saves a great deal of hard work in handling this heavy crop.

When intended thus to be hauled, it should be put up in very large shocks—say half a wagon load each. The driver backs up to the shock, tips up his frame against it, throws the rope around, and attaches the loose end to the windlass and winds up. In this way, the shock is lifted and laid upon its side on the cart. When he arrives at the place, to unload, he loosens the ratchet that holds the windlass, and the shock falls by its own weight back upon the butts, into its original position, with very little assistance. Now, to enable any carpenter to make such a machine, we will give the most approved dimensions.

Take any pair of stout, low wheels—the lower the better—and put in an axle 6 ft. between the hubs. Length of the shafts, 12 ft. 8 in. Under the shafts, two feet forward of the axle, hang a windlass, 6 in. in diameter, upon iron bearings, about 5 ft. 2 in. long, it being 4 ft. 2 in. between the shafts. The head of the windlass, on the near side, has mortises for a lever, and should have an iron ring on the end to prevent splitting. It must have a ratchet wheel and catch, to hold as it is wound up. Now make a frame of oak timber 3 or 4 in. square, 4 ft. 10 in. long, and 5 ft. 3 in. wide, behind, and 4 ft. 8 in., forward, having a cross piece forward and behind, and over the axle, and a roller over the windlass. Hinge this frame to the axle, 1 ft. 8

in. from the hind end. Frame two pieces, 4 ft. long, in the cross piece over the axle, to slant out over each wheel, supported by uprights in the side of the frame. Attach a stout rope, 36 ft. long, by one end to the windlass; the other passes round the shock, and then loops over a pin in the windlass, and draws over the roller in the frame as it winds up.

MR. ROBINSON'S TOUR.—No. 14.

Swamp Draining.—This has been done by Governor Hammond, of Silver Bluff, South Carolina, to a greater extent than by any other person of my acquaintance. When I visited his place, in April last, he had about 600 acres in cotton, upon land that three years ago was almost impenetrable swamp; full of timber, living and dead, and matted together by running vines, with a soil five or six feet deep, but so soft, that, even after it was cleared of timber, a horse could not walk over it, nor until some time after it had been thoroughly drained. In fact, one of the swamps, (there are three different tracts drained,) was covered with 2 to 4 feet of water, constituting what is known as a "cypress pond." These swamps are basins, or natural depressions in the upland, which is here all composed of a light, sandy soil, interspersed with swamps, which heretofore have never been successfully cultivated, although everywhere abounding in the south, and possessing the same general characteristics as these upon Governor Hammond's land.

He first commenced with a tract containing 170 acres. Being one of the most practical of men himself, he avoided a very common course among southern gentlemen, who act altogether too much upon the principle that sometimes induces sporting men to "go it blind;" and therefore his first operation was to make a careful survey and estimate of cost, with the quantity of land to be reclaimed, and its estimated value, and then make a diagram, showing all the lines of leading ditches, to serve as a complete guide for the overseer in prosecuting the work; for here, everything is done under the direction of the proprietor.

It was found, on examination, that to have the outlet upon his own premises, required a ditch a mile and three fourths long, and from 5 to 13 feet deep. This being done, it took off a portion of the water so that hands could commence clearing off the timber and bushes, which proved to be a heavy job, as the ground was still so wet that the bushes would not dry sufficiently to burn, and had all to be piled upon fires previously kindled with light wood. In the meantime, ditches were cut five feet deep through the centre, and all around the edges, and in every other direction where springs showed their waters; as that depth was found necessary in all cases to cut them off, while the intermediate space was checkered with smaller ditches, usually three and a half feet deep, to take off all the surface water, and insure at least three feet of dry soil. As the swamp would not sustain a horse, or mule, it had, and still has, to be cultivated entirely

with hoes; but notwithstanding the cost of reclaiming and the trouble of tilling, the first crop was such as to promise remuneration, and induced Governor Hammond at once to undertake another swamp of 300 acres, of the same character as the first. The growth of timber was sweet gum, tupelo gum, red bay, poplar, short-leaved pine, and some others; the soil entirely vegetable muck, lying upon sand. The third swamp was the cypress pond before-mentioned, and exceeds any piece of land I ever saw for quantity of stumps. This also required an outlet ditch upwards of a mile in length, part of which is 20 ft. deep. How this is to be kept from caving and filling up, is more than I know. To drain the three swamps, in all 600 acres, has required near *forty miles of ditching*, counting nothing less than three and a half feet deep, and has cost five dollars an acre, the clearing \$25, and marling \$10. This last operation, Governor Hammond has gone into most extensively, upon nearly all of his land in cultivation, having used 400,000 bushels, at the rate of 200 bushels per acre. It is boated thirteen miles up the Savannah River, from Shell Bluff, and then hauled from one to three miles out upon the land. The marl is composed of ancient sea shells, among which are now to be seen perfect oyster shells, of a mammoth size. The effects of marling the upland were very stimulating at first, but not permanent, for the very reason that so many others fail in the use of calcareous manure; and that is, neglecting to give vegetable matter for the lime to act upon. Upon the swamp land, it will be very different, for there the soil is a complete mass of roots and decayed leaves, from 2 to 12 ft. deep; and upon the part longest in cultivation, the benefit of the marl is still very great. And what was at first a quagmire, is becoming so solid that I rode over it without difficulty.

Last year, a fair crop from one acre was weighed, and gave 1,788 lbs. of seed cotton, notwithstanding much of it was blown out and wasted by a storm. Much of the ground, too, was occupied by roots and stumps.

It is found necessary to keep one hand all the time in each field, going through all the ditches, to clear out obstructions; as the banks, until they acquire a sufficient slope, will continue to slide in and stop the water from flowing free.

The manner of estimating the cost of the improvement, has been by keeping an accurate account of all the labor, and then calculating by the rule of former years, how much cotton could have been made by the same labor, and the value of it, and this being charged against the ditching and clearing, gives the amount stated as the cost per acre. Governor Hammond counts now \$15,000 outlay for ditching and clearing, and \$5,000 for marling, for which he has not yet received any returns. But so sanguine is he of success, that he has lately purchased 900 acres more of swamp, which he intends next to commence upon. He owns some 10,000 acres of land, 3,000 of which is under cultivation. A great portion of the balance is piney-woods sand, and of very little value for tillage.

His crop of last season was 1,100 acres of corn, which averages 10 to 15 bushels per acre, and 650 acres of cotton, 570 of which was swamp, and cultivated entirely with hoes. The balance of the land is "resting;" a term peculiar to the south, and does not mean that it is covered with a luxuriant crop of clover or grass, by which the soil of northern farms is renovated, when it needs rest from long-continued tillage crops. "Resting" is the only renovating process known to most of the planters. Gov. H. thinks that a crop of weeds is *shaded* beneficial to the land. I think if it were *shaded* with a coat of straw, it would be better.

Governor H. plants cotton in drills, 4 to 5 feet apart, and stalks 15 inches apart in the drills. This, at an average of 30 bolls to a stalk, will give 1,800 lbs. to an acre. He says that he has seen 700 bolls and forms upon one stalk; and that it made 4 lbs. of cotton. It grew upon a dung heap. This is pretty conclusive proof that it would be profitable to grow the whole crop upon a dung hill.

Corn is planted 3 by 4 ft. apart, one stalk in a square only, being allowed to stand. The average crop in the district does not exceed ten bushels per acre, and probably not over eight. Upon upland, ten bushels is considered a good crop. The average crop of cotton is about 400 lbs. per acre. A common hand tends ten acres of corn and ten acres of cotton, upon the light lands of this part of the state.

It was in consequence of having worked this kind of land until it would no longer produce remunerating crops, that induced Governor H. to try what he could make out of the swamp lands. In speaking of renovating light land with peas, he says that he has found more benefit from letting the vines decay upon the surface, than he has in turning under green vines. He has one field that has been cultivated upwards of 100 years. This is upon the bank of the river. The "old, brick house," memento of the Revolutionary War, stands in this field, and which has been preserved with so much care, is now about to yield to old age and crumble into a shapeless mass of brick and mortar.

There is one thing about the work upon this plantation, that might be imitated to advantage upon some others; and that is, a personal superintendence of the owner, and the use of good tools. The No. 15 plow is the one most preferred. He has some very good Ayreshire cattle, which show to excellent advantage along side of the natives of that region. He also raises some good colts; but don't find raising hogs and making pork to be profitable, principally because he cannot rear pigs, which is owing to a most unconquerable love that the negroes have for fresh pork.

His plan of clothing his negroes struck me as something new. He buys the cloth, and hires the "piney-woods people" to make it up. Not because his own people might not just as well do it, but because the poor, white women around are willing to work, and need the pay. He has upon the place, 220 negroes. I give the amount of his annual expenses for several years, by

way of comparison with other places heretofore given.

Year.		Year.	
1844,.....	\$4,225	1847,.....	\$1,847
1845,.....	3,467	1848,.....	3,690
1846,.....	4,923		

This, it will be seen, is very greatly less than a Louisiana sugar plantation; so that a much smaller crop may still leave as large a surplus.

I have no room to describe the many beautiful paintings and statuary that adorn the mansion, but I must say that the literary visitor will find here one thing to admire, which is too often missing from gentlemen's houses, both north and south, and that is, a most valuable and extensive library; and an owner who is one of the best-read men in the country. The mansion house is located, for the benefit of a healthy site, upon a tract of almost bare sand, in the midst of pine woods; and, being surrounded with so much wildness, the comforts, intelligence, and hospitality found within, are all the more striking. A spot for a well-cultivated garden, has been made by great labor, that being one of the necessary appendages to every dwelling place of highly-improved minds.

It is seldom that I have spent a day more pleasantly to myself, and, I hope, profitably to my readers, than I did the one at Silverton, the residence of Governor James Hammond, of South Carolina, 15 miles below Hamburg, on the Savannah River.

SOLON ROBINSON.

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DRILLING WHEAT.—Can any of our readers give us comparative results in drilling and sowing broadcast? By drilling, every seed is placed at a regular depth below the surface, and is sure to germinate and have a strong foot hold for the roots; thus preventing waste from birds, and liability to winter-kill by throwing out roots which have but a shallow hold upon the surface. Subsequent cultivation and the destruction of weeds can be effected by the use of the cultivator or hoe, if necessary; and there is probably an additional advantage in the prevention of rust, from the free circulation of air between the rows. This is a practice much followed in England. Who has tried it, and with what success, in America? We hope to hear from some of our correspondents on this subject.

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PATENT HOOPS.—A machine has lately been invented for making hoops, which bids fair to do away the necessity of growing hoop poles hereafter. Any tough, straight-grained timber will answer the purpose. It is first sawed into square strips, the width desired for the hoop; these strips are next turned round, like a hoe handle, and then slit through the centre. Each stick thus makes two half-round hoops. They are then steamed and bent. Casks hooped with them, present an extra-neat appearance. The whole work is done by machinery. Just previous to setting them, it is necessary to wet them in cold water. A specimen of these hoops was exhibited at the late State Agricultural Show at Syracuse.

UNDERDRAINING MEADOWS WITH THE SUBSOIL PLOW.

SOME of our best farmers have lately adopted, with entire success, the system of underdraining their heavy clay and wet meadows. This is done in the most summary manner, by attaching two yoke of good oxen or two pair of horses to a strong subsoil plow, which penetrates to the depth of 15 to 20 inches below the surface. The sod is divided and separated by the plow to a distance scarcely exceeding one and a half inches, which immediately closes after the furrow; and if moist, when the operation is performed, the turf speedily unites and not even a line is visible beyond a few days.

By this operation, a large underdrain is left at the bottom of the furrow where the point, or nose, and wing of the subsoil plow has passed, and nearly of their size, which, in stiff soils, will remain open for years. On meadows where there are puddles of standing water, as is always the case on stiff soils after rains, the effect is instantaneous. If the plow has been started in a ravine or low part of the meadow, (as it should be, so as to form a descent for the surface water,) when it passes through the little basins, the water vanishes as if by magic, and it is heard gurgling rapidly along its new-found aqueduct till it reaches the outlet. In addition to this more immediately perceptible effect, if the meadow thus drained, be closely watched for a few weeks, and especially during wet weather, a marked improvement will be noticed, over similar undrained meadows. The grass will be thicker, ranker, and more forward; it will mature quicker, and yield a heavier growth of sounder and sweeter forage.

The distance of these furrows, or drains, should vary according to the compactness or tenacity of the soil, and the frequency of the basins to be drained. In the heaviest soils, the drains may be advantageously run within ten feet of each other. If less adhesive, and few pond holes exist, the furrows may be a distance of 20 or 30 ft. No meadows, unless of the lightest kinds, will be injured by this operation, while all others will be decidedly benefitted. This results from the imperceptible yet rapid drainage of the water which is held in excess by the soil, and the escape of which is so beneficial to the vegetation.

This operation has been adopted in England many years since, but with an implement considerably differing from the subsoil plow. It consisted simply of a pointed iron, some three inches in diameter at its largest end, which was connected with the beam by two strong, thin coulters. The iron point was often sent three to four feet below the surface, and required a strong force to move it. This implement has been principally superseded where first adopted, by the substitution of thorough and more permanent tile underdraining.

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AN ONION FROM KOSSUTH'S GARDEN.—Mr. J. F. Doyle, of this city, has in possession an onion grown last summer in the garden of the celebrated Hungarian patriot, Kossuth. It was taken

by a Polish refugee, and presented to the Rev. Ludovicus Jerzykowitz, and by him to Mr. Doyle. It is 16 inches in circumference, and weighs 1 lb. 14 oz. It is one of the finest onions we ever saw; and we are glad to learn from Mr. Doyle, that he intends to transplant it next spring, and grow seed from it.

NATIVE GRASSES.

GREAT neglect has characterised the investigations of American agriculturists, as it regards the varieties, habits, and comparative value of indigenous grasses. We have before called the attention of our readers to the great number of spontaneous growth in the different latitudes and varied localities within the Union; and we have tried to elicit original information, derived from actual experience and observation, but hitherto without much success.

There is a great labor—physical and mental—to be performed, and by a great number of intelligent, observing, and cautious farmers, before we shall have the data for classifying the merits, and even the precise or definite character of our forage plants. Their natural habitat, (soil, situation, or location,) must be noted, their variations when changed to other localities; their treatment, or manner of sowing and cultivating; the kinds of manures best suited to them; times for feeding in pastures or curing for hay; and their comparative and actual merit, are all matters of vital importance to be known. When this information has been obtained from multiplied sources, under every varying circumstance and situation, then we shall be prepared to embody, arrange, and classify this most valuable of native American products.

There are great numbers of the grasses peculiar to every situation on this continent. In the low lands of the north, we have the swamp cock's foot, the meadow foxtail, varieties of red top, and many others. On higher lands, above 36° north, we have the Timothy, or fox-tail, smoothed-stalked meadow, or green grass, blue grass of Kentucky (*Poa pratensis*); the sweet-scented vernal grass, &c. In the south, are the Guinea grass, in several varieties, the crab and Bermuda grasses; and in Texas, and still further west to the Pacific, the musquit, (muskeet,) the buffalo and tornillo, or screw grasses abound.

Besides these, all of which are indigenous, and innumerable others, less conspicuous but hardly less useful, perhaps, as pasture grasses, there are many of the natural or indigenous clovers, which are invaluable as forage plants. We have observed these in every section of the United States we have visited; but by far the most conspicuous and abundant is the dwarf white clover. This is to be found growing in the greatest luxuriance on the stiff clays of the most northerly states, intimately blended with the green grass (*Poa pratensis*); and it is seen with equal profusion on the levees, by the way sides, or on the resting fields of the Delta of Louisiana, whenever the creeping Bermuda permits its egress above the surface. Next to this, is the yellow clover of various species, four of

which at least, we have noticed, at the north, and two or more at the south, and we have observed only such as presented themselves unsought before us.

What are the absolute merits of these? How are each of these relished by stock, horses, cattle, and sheep, and what are their nutritive value? We see little left of them in the fields where other forage has been consumed by horses and cattle, and sheep are peculiarly fond of them. We noticed, last summer, among the luxuriant crops of standing grasses, on some of the Long-Island and other meadows, no inconsiderable proportion of the whole crop was the tall, yellow trifolium, much of which was two to three feet in height. May we ask, for the benefit of American husbandry, that our intelligent readers will give us some useful facts and opinions on the subjects of such of these native grasses and forage plants as come within their own observations?

GUANO—HOW SHOULD IT BE APPLIED?

Most persons prefer to sow it upon fresh-plowed earth, and harrow in immediately. Others have found a very beneficial effect by mixing it with earth and sowing upon grain or grass. Some put a table-spoonful of guano upon each side of a hill of corn, taking care that the guano is several inches from the plant, and then cover immediately with a hoe or plow. Some drill it along in the furrow at the rate of 200 to 400 lbs. to the acre before dropping the corn.

Mr. Nelson, of New Kent Co., Va., sowed it broadcast upon wheat land, and plowed it in deep—he thinks the deeper the better—and then sowed his wheat and harrowed in. The land dressed with guano shows a very marked difference. Part of the land had been recently limed; but instead of injuring the effect of the guano, as many suppose, it rather added to the value of it. This is because the guano is buried so deep that the ammonia cannot escape.

Guano is the cheapest and most effective manure ever applied to poor land. It will renovate it the quickest. But after that, don't depend upon this one application; but give your land vegetable manures and rotation of crops, and you may continue to grow them for a long time, just from that one dressing of guano. Use none but the genuine Peruvian, if you wish to be sure that it is good.

WIRE FENCE.—We intended to add to our article on wire fence, in the January number, that the ends of the wire which hook into each other, should be bent while *red hot*, otherwise, when the wire contracts, as it does on the approach of cold weather, the ends break, which have been *bent cold*. A small, portable furnace can easily be taken into the field, for the purpose of heating the ends of the wire, when the fence is put up.

SEA-MARSH MUD.—Garden peas, growing upon land near Norfolk, Va., manured with this, were not affected by the severe frost of last April, while others, upon adjoining land, were entirely destroyed. Why was this?

WHO IS REVIEWER?

As no little curiosity has been manifested by many of our readers, to learn who is the author of the articles which have appeared in the *Agriculturist* over the signature of Reviewer, we do not know a better method to unmask the man, and tell them all about him, than to take them with us to his own domicile, and there show him up *in propria persona*.

It was at early dawn of a delightful day, in the month of July last, that, mounting a trusty nag, and accompanied by our faithful dog, we set out to fulfil a long-standing promise of visiting our old friend Reviewer. Following the course marked out on a chart, with which he took good care to furnish us beforehand, we soon cleared the pent-up atmosphere and hurly burly of imperial Gotham, crossed Harlem Bridge, and then taking a north-east course, jogged gaily along, admiring the beautiful scenery of Westchester as it spread wide on either hand along our route, inhaling large draughts of the bracing country air, perfumed by the fresh-cut grass, and listening to the sweet caroling of numerous birds. Soon after crossing the line which divides New York from good old Connecticut, we left the great eastern highway, and turned short into a road of very narrow dimensions, and apparently little travelled. We had not proceeded far upon this course before the track became suddenly rough, hilly, and devious; and thus it continued till towards the close of the evening, when we seemed to reach the apex of a dividing ridge of high hills or mountains. This crossed, we began to descend rapidly, when, suddenly turning a lofty precipice, an enchanting valley, upwards of a mile in width and several miles in length, spread out before us, bounded by high, sharp, conical hills, shutting it in apparently from all the rest of the world. A clear, rapid stream, bordered by rich meadows, coursed its devious way, about two thirds of the distance down this beautiful valley; and then took a wild tumble of some twenty feet or more over broken rocks, and spread out into a lovely lake, bounded by the lower range of hills, through whose gorge the crystal water broke foaming over another still wilder cascade, and again became a swift, brawling stream, till it met the tide waters of the Sound.

We had not advanced far into this charming valley, when we espied a large, two-story, old-fashioned, white house, with a wide piazza in front, and dormer windows in the roof, standing on the brow of a gentle eminence about two hundred yards from the road, and half hid from the view, by wide-branching, venerable trees. From a previous description, we at once knew this to be the "Captain's" residence—for by this title, only, is Reviewer known, the country over.

We had scarcely reached the entrance gate, from the high road, when we were met and heartily welcomed to his home, by a thick-set and rather weather-beaten looking man, with grey hair and black eyes, and in whose countenance sat an expression of no little shrewd-

ness, commingled with great benevolence. This, gentle reader, was no other than our hitherto unknown Reviewer; and if you will now add to our description, the habiliments of a half sailor and half farmer of a highly respectable Connecticut class, you will have a very good idea of the person whose acquaintance you have so long sought.

The Captain's family consists of a wife—a gentle, delicate woman, some ten years younger than himself—two sons, and three daughters. The eldest of the latter is well married to a young farmer, who is his nearest neighbor. The other children are at home.

His farm contains two hundred and twenty-seven acres, and is considered one of the best in the valley. It fronts about a quarter of a mile along the lake and river, and then runs back in the form of a parallelogram to the top of a thickly-wooded hill, nearly half a mile in the rear of his house. The lower part of the farm, bordering the water, is rich meadow, and is kept constantly in grass. The centre is rolling land, and, with the exception of a few acres, reserved for lawn and trees around the house, this is kept under a regular rotation of grain and root crops. Higher up, the surface is so steep and rocky that it is never disturbed by the plow, but is left to pasture, orcharding, and woodland. Upon the whole, it is a highly desirable property, and well suited for the varied crops usually cultivated to most advantage in Connecticut. Perhaps of these, and the management of the farm, and some other matters—unless the Captain forbid—we may speak more particularly hereafter.

We asked him how, after seeing so much of the world, he could be contented to settle in a spot so completely inland. He replied that it was for this very reason he had sought a quiet land-locked harbor; besides, it was the old homestead, the place where he was born, and where his ancestors had resided from the first settlement of the country; and he had a pride, as well as pleasure, in retaining it in the family. Then the climate was healthy, his neighbors intelligent and agreeable—there were plenty of fish in the river, fine sailing on the lake, and game in the mountain forests. What more could a quiet man desire?

The Captain's history we had not fully learned till this visit. It seems he had been brought up on the farm, and there remained till nineteen years old, when he took a fancy to ship as a man before the mast, and go to sea. He rose rapidly in his new profession, and soon got command of a vessel. After this, his course was rather a checkered one, with a shipwreck or two, and various other mishaps; yet, in the long run, he was prosperous. Fifteen years ago, finding he had accumulated enough to enable him to live independently, he relinquished the sea, and from that time has devoted himself assiduously to the improvement of his farm, of which he seems extravagantly fond. Soon after we were at his house, he left for a voyage to Europe, for the benefit of his health. Recent letters from him inform us that he has coasted the

Atlantic from Liverpool to Gibraltar, and thence up the Mediterranean to Constantinople. He is now daily expected home, in improved health. We have no doubt, in March, our readers will again have the benefit of his comments on the various articles of the *Agriculturist*. And now, since the mask is removed, and they know their man and his whereabouts, we trust that they will not be less interested in his writings than heretofore.

PRODUCTS FROM THE MULBERRY.

EXTRACTS from letters lately received from a veteran silk grower, now 84 years of age, who has spent the last 20 of his life in ineffectual endeavors to introduce the extensive cultivation of silk into the United States.

"It has long been hoped, that a cheaper and more rapid mode of separating the bark of the mulberry from the wood of the sprouts could be discovered, than the ordinary process of doing it by hand. I have now hopes that it may be effected in this town, next season, by appropriate machinery. But if it cannot, I feel confident that it may be effected by hand labor, in August, when the bark may be easily separated from the wood of young, annual sprouts, without interfering with the process of feeding worms with the foliage, which ought to be finished before that time, in New England.

"Canton mulberries are decidedly the best kind for feeding worms. This is the kind used in China for making their best silk. They annually head down their mulberry, as appears by a set of 28 plates of paintings, one of which represents the process of cutting down the mulberries close to the ground, with a crooked knife, and carefully laying them aside for some use; probably to heat their furnaces for reeling the cocoons; and, as fuel is scarce, and they *save all*, they probably strip the sprouts for bark silk, which is strong, durable, and from which good silk is made for sewings, handkerchiefs, or other purposes.

"I had my mulberries headed down, a few days since, and covered in the field, for experimenting with next spring; and covered the stumps, to prevent the water from entering between the bark and wood, and injuring them.

"If I do not succeed, by machinery, in separating the bark from the wood, I am of opinion that, after the season of feeding, it may be done by hand; submitted to the operation of rotting, to loosen the outside cuticle from the proper fibrous bark. It may be dressed like flax, skeined, spun, and wove, like common raw silk, and used like raw silk, for any purposes.

"If such a process can be made to succeed, the seed can be sown in drills, or broadcast; and it is thought that as many pounds of bark silk may be taken from an acre of ground, as of flax. If this can be successfully carried out, it may be the most profitable business of agriculture ever known in America."

DANIEL STEBBINS.

Northampton, Mass., Nov. 19th, 1849.

Accompanying these letters, were several specimens of the *bark silk*, so much like the *tow*

of silk, as to be easily mistaken for it. They tend to confirm the recently-acknowledged principle, that the animal economy *appropriates—not materially changes*—the proximate substances, or principles, pre-existing in the plants which have contributed to its support.

We hope yet to see our rural population extensively engaged in the various pursuits of rearing the mulberry and silkworm, and converting their products into useful, tasteful, and remunerating fabrics. At the rate we are going on, importing 200,000 to 300,000 Europeans annually, we must take care to introduce their arts and employments with them, or our national balance wheel will soon be sadly out of joint.

INCREASE OF FERTILITY FROM SHADING THE SOIL.

EVERY observing person must have noticed the unusual productiveness of soil which has been closely protected for a time. The earth under a building, the northerly side of a wall or large log, is itself a valuable manure. How is this result or change in the character of the soil produced? Will some of our scientific readers explain?

We know that such earth contains large quantities of nitrate of potash, (saltpetre,) and nitrate of ammonia, and it is frequently used for extracting saltpetre in the manufacture of gunpowder. Does it not contain other salts, absorbed from the atmosphere, and developed in the soil, in consequence of its peculiar position, all of which are highly favorable to the growth of vegetation? And how can this result be made of practical benefit to agriculture? We have heard much of the beneficial effects of *Gurneyism* (covering meadows and pastures with straw, or refuse vegetables.) Has this been tried, and with what result in this country?

FEEDING QUALITIES OF PIGS.—A correspondent informs us, he bought, in September, two Berkshire pigs, six weeks old. He kept them in a warm pen, and gave them the slops from a small family, intending them for breeding. On looking at them, the last of winter, he found them too fat for breeding, and accordingly slaughtered them, at eight months old, when one was found to weigh 240 lbs., and the other 278 lbs., dressed.

Another says, a sow, mostly Berkshire, was butchered on the 9th of January last, in Conn., at precisely a year old, and dressed 553 lbs. A neighbor has just slaughtered two swine, at about 14 months old, both kept together and fattened in the same pen. One dressed 478 lbs; the other 247 lbs. The lightest had eaten much more than the heaviest, and when the last had filled himself from the trough, the other, though eating faster than his chum, was always on hand for the remaining food; and a very coarse brute, too. So much for breed.

LONG AND SHORT TEAMS.—Nowhere else in the United States, except in the vicinity of Wilmington Del., and from there to Philadelphia, have we seen the curious notion prevail of hitching four or five horses in a string, to a cart or wagon.

But there it is almost the only manner. It is a notion derived from the Swedes, who first settled that region, and who, in their own country, traverse very narrow roads. Those who follow the practice, contend that a team will pull more thus hitched, than in any other way. But the contrary is the fact.

As a contrast to this, in many parts of the south, you will see nothing but one-horse carts; and frequently one-ox carts. These would look very curious to Yankee boys, especially, as the oxen are very small.

AMERICAN PROVISIONS IN ENGLAND.

Our export of provisions for Europe is confined almost exclusively to England. Notwithstanding the immense amount of wines, brandies, silks, and gew-gaws we receive from France, the toys and other worthless trumpery we get from Germany, and elsewhere, there is scarcely a pound of American provisions consumed by the German or the Gaul. The Anglo Saxon alone, takes a small portion of that immense surplus of the staff of life we produce in such boundless profusion. We think it far better that our population should divert a larger proportion of their labor to manufacturing the articles we receive from abroad, and thus check the excessive production of provisions, which would consequently be principally consumed at home. But our "free and independent" legislatures think otherwise; and, leaving the more responsible duties of law making and national policy to them, we content ourselves with occasionally giving a few brief hints to our producers of export articles, that they may receive some small returns for their laborious toil and exhausted lands. If they will delve on and impoverish their soil to feed hungry manufacturers abroad, instead of bringing them to our own shores, and protecting their labor, and feeding them here, we wish to afford them what little light we can to mitigate their losses—we will not be guilty of the mockery of calling it an augmentation of their profits.

The negligence of American farmers in putting up provisions for market, whether at home or abroad, has, for a long period, been proverbial. They may do much better to feed American mouths, which have become accustomed to these preparations; and the producer has the further advantage, that we must take them as furnished or starve; while the proximity to our domestic market, prevents that excessive deterioration, before reaching the consumer, which they experience when sent abroad. We are so much accustomed to soft, rancid butter; hard, strong cheese; lean, stringy beef; gristly, flabby pork, that it would seem to have become a vested right in our producers to furnish them to the extent of the demand. This immunity of supply is trebly secured by constitutional right, the laws of the land, and immemorial usage, "whereof the memory of man runneth not to the contrary." Thus much for America. But when we send our commodities to Europe, they have to be tried by other tastes and customs. The predilections of Victoria's subjects will not permit cramming with

stale, rancid, nor offensive provisions, and the result is, that we receive but one half, and sometimes not one third, the price we might have received for good articles.

These remarks apply with more force, if possible, to butter, than to beef, pork, bacon, and lard. Many specimens of American butter—the entire season's make—will command from the wholesale dealer in the New-York market, from 18 to 22 cts. per pound; while a large share of butter, equally good when taken from the churn, in consequence of subsequent mismanagement, will bring only 6 or 7 cts.; and it sells for this paltry price, not for any edible qualities it possesses, but simply for *grease*. Our farmers, who like to furnish these wares for such prices, will find no obstacle in continuing the supply.

VALUE OF CORN COBS.

A FRIEND, who had read an article in some paper, recommending corn cobs, ground or unground, as an excellent and valuable feed for stock, undertook to test the truth of the statement for himself. He had a large quantity on hand, and after providing himself with the proper vessel, (a half-hogshead tub,) he filled it with cobs, and then added a solution of salt in water. In this steep the cobs were suffered to remain, till they had imbibed a sufficiency of the fluid to make them soft. In this condition they were then fed out to the stock, at the rate of half a peck to a full-grown cow or ox, in the morning, and the same at night. He remarked that all his animals were extremely fond of the cobs; that they consumed a much less quantity of hay and grain than before he commenced giving them this feed; neither did they require salt in its natural state. He has also ground several bushels of cobs, and finds the meal an excellent article for making mush.

I have used corn and cob meal, ground fine, with and without oats, for horses, the last 12 or 14 years, and I think it an excellent feed. It keeps a horse loose in his bowels, his hair lies smooth, and it makes a great improvement in his looks. I also use the meal with wheat or oat chaff, to feed horses. When I first came to live in the neighborhood, I was ridiculed by the neighbors, who said my horses would all die before spring; but when spring came, they were fatter, and in far better condition than theirs. I found that they took my advice after this, and fed the same as myself, making a great saving in feed.

A SUBSCRIBER.

Gowanus, Dec. 20th, 1849.

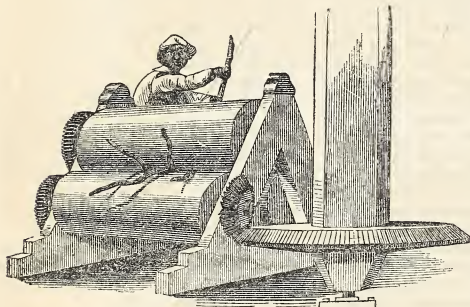
VALUE OF ASHES.—Thomas Hancock, nurseryman and farmer, Burlington, N. J., pays 12½ cents per bushel, in Philadelphia, for leached ashes, and two and a half cents freight, and then hauls them 2 to 3 miles, and applies them at the rate of 160 bushels to the acre, upon sandy soil, and finds it a profitable application.

VALUE OF GUANO.—The same person above-mentioned, sifted two quarts of guano upon a row, 40 rods long, and raked it in, and planted cabbage. Upon other rows, he put a good dress-

ing of manure. Others, he planted without any application. Loamy soil and well worked. Between the guano and manure rows, there was little or no difference, while, upon the unmanured rows, there grew only here and there a small cabbage.

CHAPMAN, RANDALL & CO.'S SUGAR MILL.

The following cut shows a sugar mill, recently invented, adapted to horse and other power. This mill saves much of the labor heretofore consumed in grinding the cane, and expresses a much larger proportion of the cane juice than has been done by many of the mills in use. Great improvement has long been needed in the grinding and manufacture of cane, and we are glad to see the ingenuity of our countrymen directed to this important branch of American products. These mills are made of various sizes, and are adapted to small as well as large plantations.



SUGAR MILL.—FIG. 23.

THE GENERAL GOVERNMENT IN FAVOR OF AGRICULTURE—AT LAST.

GENERAL TAYLOR *never surrenders*, neither his own honor nor the interests of those confided to him. He has come out, in his first message to congress, as we supposed, from a slight personal acquaintance and some familiarity with his public and private character, what he would do; and in a brief, but sound, common-sense, patriotic document, occupying but three columns of our larger city sheets, he has briefly, but clearly and most unquestionably, set his sign manual to be a recommendation for legislative aid to the interests of agriculture. Hear him.

"No direct aid has been given by the general government to the improvement of agriculture, except by the expenditure of small sums for the collection and publication of agricultural statistics, and for some chemical analyses, which have been, thus far, paid for out of the patent fund. This aid is, in my opinion, wholly inadequate. To give to this leading branch of American industry the encouragement which it merits, I respectfully recommend the establishment of an Agricultural Bureau, to be connected with the Department of the Interior. To elevate the social

condition of the agriculturist, to increase his prosperity, and to extend his means of usefulness to his country, by multiplying his sources of information, should be the study of every statesman, and a primary object with every legislator."

For the first time since the days of Washington, we believe, has this subject been so directly urged upon our national legislature. Mr. Ewing, in his report for the *Department of the Interior*, has followed up this subject rather more at length, as follows:—

"The agricultural interest stands first in importance in our country, and embodies within itself the principal elements of our national wealth and power; and it should be with us, as it has been, and is, with all other prosperous civilized nations a leading object of public care and patronage. The principal nations of Europe have their agricultural boards, known by various names, under the direction of men of high scientific attainments, supported out of the revenues, and connected with the administration of the government. And, to borrow the language of the father of his country, in his last annual message, 'This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre, the results everywhere, of individual skill and observation, and spreading them thence over the whole nation. Experience, accordingly, has shown that they are very cheap instruments of immense national benefit.'

"No direct aid has been extended by our government to agriculture, except by the yearly collection and publication through the Patent Office, of some agricultural experiments and statistics; and recently, the analyses of some soils and vegetable productions. The means thus applied, though useful in their results, are wholly inadequate. To meet the great object fully, and to give this leading branch of American industry the aid which it so well merits, I respectfully suggest the establishment of an Agricultural Bureau, connected with this department, but separated from the Patent Office. The expense would be small, compared with the object to be accomplished.

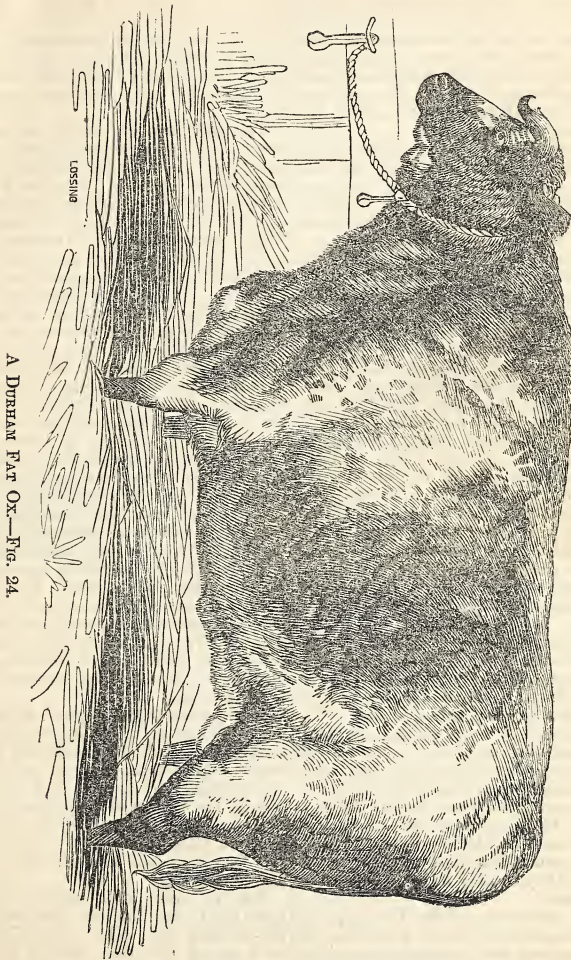
"If this suggestion should meet with the approbation of congress, and the organization of a bureau become a subject of consideration, much aid may be derived from consulting the systems adopted by France and Belgium, both of which have done much towards the advancement of agriculture as a science. Belgium, it is believed, has the best organized agricultural department; and, partly owing to this, partly to the natural fertility of the soil, is the best cultivated and most highly productive country in Europe."

We trust agriculture has at last reached such a point of importance and respectability in the eyes of our public men, that it may receive, hereafter, some part of the attention from those which it has so long sought in vain.

A DURHAM FAT OX.

THE cut below represents a grade Durham, or shorthorn ox, fattened for the London market, and standing up to his knees in a comfortable straw bed. We wish our readers to examine this figure particularly, and notice what an improve-

ment it is over the large, coarse animals of the country. This ox is not a showy animal, but he is a snug, well-made, well-fatted, useful beast; and one, we dare say, that paid well for the food he consumed, from his birth up. The head is rather thick, and the horns slightly coarse; but



the legs and tail are fine. The brisket is not quite so well developed as it should be, but the crops, loin, buttocks, and barrel, are capital. Depend upon it, that he made many a tender, dainty dish.

CORN ESTIMATED BY THE HILLS, AND NOT BY THE ACRE.—In many parts of the United States, the

yield of corn is counted by the thousand hills, instead of by the acre. Inquire what the average yield of corn is, and you will be told, "so many bushels to the thousand." If planted four and a half feet each way, an acre will contain 2,151 hills. In parts of Kentucky and North Carolina, 100 ears of corn are counted for a bushel.

BENEFIT OF RAILROADS TO AGRICULTURE.

The New-York and Erie Railroad.—Twenty-five years ago, I left the city of New York to visit Binghamton. Eight hours upon a steamboat of those days carried me to Newburgh. Four days and nights, long, tedious toil in a post coach, over that region of mud and mountains, hills and hollows, and through vast, uncultivated forests, opened to our sleepy senses the valley of the Susquehanna, rich in its native pines, and covered with a fertile, uncultivated soil—for it had no market for the farmer's produce—no outlet for a surplus, except down the long and dangerous voyage of a lumberman's raft to the far, far away port of Baltimore.

How the throng at Binghamton, gaped, open-mouthed, around "the man from York," to hear his news "in advance of the mail," *only four days old*. Whoever then thought of things to come? Who, dreaming, would have dared tell his dream, that within less than a quarter of a century, a locomotive should be seen thundering through the little quiet village of Binghamton, with thirty burthened cars, carrying 300 tons of freight; and that this would come from New York, up and along the Delaware, and over the intervening mountains, down into this valley? Who then would have believed "the man from York," if he had told the quiet villagers that after twenty-five years he should visit them again; that he would then take his breakfast in New-York City, and his supper in Binghamton? That the might and power of man; that the persevering energy of the Yankee, would say to the granite hills—give way, and to the iron-bound points of rocks, a hundred feet high along the Delaware, we must pass; and that the hills should sink down, and rocks of ages, grown grey in their strength, should yield to the iron will of man, to make an iron road through these hitherto impassable mountain fortresses.

No one would have believed the wild dreamer. But all this has been done. Who can realise it? The New-Yorker reads of the New-York and Erie Railroad; little he knows of what its projectors and builders have accomplished. The city lady rejoices that now she can sip pure milk, fresh from the mountain pastures of Orange county; but how little she realises what a mountain-moving power has been exerted to make a path to bring this sweet luxury daily to her door. Let them go with me along this mountain route, and be gladdened at the sight of its beauties, and filled with surprise at its wonders, while they equally admire the works of nature and art.

Through the politeness of Mr. Loder, president of the company, I received a free pass to enable me to go over and examine the agricultural capabilities of the region through which the road has been made. How can I describe and journey through a region, and along such a road as this, and not have it appear tame and uninteresting, particularly to one who has ever been whirled along with the power of steam through the valley of the Delaware? We leave the city, foot of Duane street, at seven in the

morning, on board of one of the company's excellent boats, and directly after we are called down to a breakfast, ready for all that have not taken an earlier one at home. In two hours we are landed upon the almost mile-long wharf at Piermont, twenty-five miles up the Hudson. This is the first wonder. It must have cost nearly a million of dollars. Whether judiciously expended or not, I will not discuss. Here it is, and will remain an enduring monument to point to every passenger upon the river, the easterly terminus of this great road. It is very spacious, and brings the cars close down to the boat.

The rails are of the \equiv pattern, and very heavy; laid upon cross ties, and being six feet apart, give us very roomy cars; in fact, the best in this country. Now we begin to climb over the mountain barriers between the Hudson and Delaware; up through the rugged Ramapo Valley, winding along the Orange-county farms; noting at every station the rows of milk cans, and baskets of garden vegetables, ready for the "market train," until we come to that once old inland town, (now inland no longer,) of Goshen, fixed in my youthful memory as the home of the old "butter hills," of a bank whose capital, if not butter itself, was the product of it. At Port Jervis, we come down upon the Delaware, a moderate mill stream; seventy-seven miles from the Hudson, and thence along the river bank as much further, crossing it twice, through the wildest region that ever reverberated the startling scream of the locomotive whistle. At one point, the train is suspended, as it were, and it actually appears, when seen from below, as if upon a narrow shelf excavated out of the perpendicular face of the mountain, where the very thought of a tumble is enough to make a sensitive man's bones ache. What now shall be done to make these pine-denuded hills productive, is a question that ought at once to be discussed? Why not cover them with grass and sheep, and send to New York the finest mountain mutton in the world, by every nightly train upon the road.

Leaving the Delaware, at a wide-spread, scattering village on its banks, once a great lumber-trading town, called Deposit, now just emerging into an agricultural place of trade and forwarding, we climb up the summit grade, nearly 60 feet to the mile, and over about 20 miles to the Susquehanna at Lanesborough; crossing in the way the Cascade Bridge, a wooden structure, 270 feet long, and 175 feet high; yet, as firm and unshaking as a rock.

Two or three miles further on, and we are upon one of the noblest structures of this wonder-working age. The valley of the Starucco, a wild, raging mountain stream, where the deep snows send down their floods, is spanned by a solid, stone bridge, 1,400 feet long, and 100 feet high, built upon seventeen arches, and in such a perfect manner, that generations shall come and go, and yet that monument of man's power to do good, shall tell to after ages the story of this great road. Still further along, upon another bridge, we almost pass over the top of the

town. It would be an easy trick for old Santa Claus to take a flying leap from the cars into the chimney top of some of the Lanesboresans.

Now we are in the rich and lovely valley of the Susquehanna, and at seven o'clock, only twelve hours from New-York City, we alight at Binghamton, 227 miles from thence. It is not the little village of twenty-five years ago, far away in the interior of the state, and almost unapproachable, but a flourishing, lovely town; a suburb almost of the great emporium. What a change has the realisation of that wild dream accomplished for the valley. Agricultural products, which formerly were not worth cultivating for want of a market, now find ready sales and daily transit to an all-absorbing market. Only think of shipping frame houses to San Francisco from this place over the Erie Railroad! Ah! and think too what is very likely to be the case a few years hence! Beef and mutton will not only be fatted upon these rich lands, but the slaughter houses of the city will be here also, and the animals killed, as they always should be, where they are fed; when the facilities are as good for sending the meat to market, that if butchered in the afternoon, and hung up in cars constructed on purpose, with wire gauze windows, it would be in market next morning in fine order, and far better than when the poor beasts are driven or transported alive. It appears to me to be one of the grossest pieces of folly, in our time, to continue to butcher animals within the city. Look at the amount of offal to be carried out again. The hides, too, are sent back over the same route to the tanner.

But I am off the track. Yet these things are all so intimately blended with the railroad that I can not speak of them. The road is now completed 260 miles, to Elmira, and in a few weeks a branch will be completed from there to Seneca Lake, and a large and good steamboat running all the year, (that lake never freezes,) to Geneva. Another branch is nearly ready between Owego and Ithaca—29 miles—and through Cayuga Lake, thus uniting, by either of these routes, with the northern railroads. Even now the amount of travel upon the road is enormous, but when the branches are open, it will be greatly increased; and when it is finally terminated upon Lake Erie, it will exceed any other work, perhaps, in the world, in the magnificent manner it is constructed, and in its continual length and incalculable business. It is worth a journey of a thousand miles in addition, to witness the surprisingly beautiful scenery of the country through which this road passes.

I visited several farms in the Susquehanna Valley, of which I shall speak hereafter.

SOLON ROBINSON.

New York, October 27th, 1849.

PRODUCTS OF ILLINOIS.

OUR state being mostly prairie, indicates very definitely our leading productions, which are wheat, corn, and grass. The wheat, after taking what we want for our own consumption, and you may rely upon it we are not sparing in its use, we ship east and west, north and south, as best suits the convenience of our farmers. Previous to the construction of the canal, immense quantities were hauled to the banks of the Illinois River, and thence carried by steamboat, some twenty or thirty of which, in the winter of '46 and '47, found constant employment in freighting our rich products to St. Louis, on their way to mitigate the famine in Europe. In voyaging leisurely along this route, I have been almost incredulous at the enormous quantity of produce reported to me to have been sent forward from the successive little shipping ports which line this miniature Nile. Now, the tide of transportation is turned northwardly, and large quantities of our products, which formerly went down stream, go backward towards its source, and crossing the narrow isthmus, at Chicago, launch upon the broad waters of Lake Michigan, towards your emporium. Although this navigation is nearly twice the distance, and about 500 miles of it is through artificial channels, yet we find our account in sending generally by this route, as we are always sure of the best American market, and the safer and cleaner transport secures us a higher price than when it goes by New Orleans. That our wheat is good, you must have had conclusive proof in the millions of bushels we have hitherto sent; though it has been the practice of some of our farmers to mix their spring and winter wheat for market, which has, to some extent, depreciated our average standard. Our buyers, however, have become more discriminating than formerly; and by their diminished offers for the spring grain, have now more generally induced the growers to retain it for their own use, (for which it is really quite as useful,) and send only the more highly-prized winter grain forward for exportation.

As for corn, we raise it almost beyond count—not so intolerably abundant as in the middle and southern part of the state, yet in sufficient quantity to fatten a very large number of swine and cattle. Our pork and beef markets are small in comparison with that of Cincinnati, the pork emporium of the universe. But we are steadily advancing in these products, and in beef, especially, we have been winning golden, literally *golden* opinions from Europe, for our finely-packed, prairie-grass, and corn-fed beef. Grass furnishes us the groundwork for our fat cattle, which, but a few years since, were invariably driven to market. Since we have taken pains to learn the English system of *fattening*, as well as *packing*, we have made our herds vastly more profitable by slaughtering and putting them up at home.

We supply ourselves with dairy products, but export few comparatively as yet. We shall, within a few years, probably, when we have learned the science of making, preserving, and packing, according to European plans, become extensive exporters of butter and cheese.

LOCKE says we are to be classed as *mental ruminants*. It is not enough to *cram* with collections of facts and theories, but we must *chew* them over and over, before they will yield strength and nourishment to us.

Of fruit, we have not yet extensive collections, but we are rapidly advancing with our orchards, which contain some of the choicest specimens of all kinds, as might have been seen from the samples recently sent to your Fruit Conventions in Buffalo and Syracuse. But I must leave this branch of our horticulture to some of our more exclusively professional pomologists, who are abundantly able to do justice to the subject.

Near Mount Joliet, Ills.,

J. D. S.

Nov. 29th, 1849.

AMOUNTS OF SUNDRY ARTICLES OF MER- CHANDISE

Imported into the United States during the year
ending December 1st, 1849.

Woolen fabrics,	\$11,566,082
Cotton do.	9,634,467
Silk do.	15,090,811
Flax do.	4,889,551
Miscellaneous,	3,794,418

Total, \$44,975,329

So much for dry goods. We then have 112,010 tons of iron, costing \$4,155,480, besides hardware, and numerous other articles, such as sugar, coffee, tea, brandy, gin, wines, spices, toys, *et id omne genus*. Now, as there is a large proportion of the raw material entering into each of the above fabrics, our agriculturists can readily understand that their own interests would be largely promoted, by the establishment of additional manufactures in this country, to consume their surplus products of wool, cotton, flax, and hemp, and to stimulate the production of silk and other articles. Besides consuming the raw materials that enter into foreign goods, and which are now, (excepting the cotton,) exclusively furnished abroad, this change would be beneficial in two ways—first, by diverting labor from the present overloaded agricultural classes; and, second, by giving an additional demand for all the other products which these laborers would require while thus engaged. All the iron, copper, lead, and zinc ores and coal consumed in their manufacture, would, of course, be clear gain to us, as a nation, as they would otherwise slumber unheeded, for ages to come, as they have for ages past, when the country was inhabited only by Indians.

SALT, MIXED WITH LIME AND MAGNESIA, AS MANURE.—Will some of our readers, in the neighborhood of the New-York, Kanawha, or other salines, inform us whether the substances, (bitterns,) above-named, are ever used for agricultural purposes, on what soils and crops, how applied, and with what success? The two latter are frequently detected, sometimes in large quantities, in evaporating salt water from springs, and are only an incumbrance about the furnaces. We think their application cannot fail to be attended with great advantages as fertilisers, for almost every soil—and certainly to the extent they are required as food for crops.

CARE OF YOUNG STOCK.

The first winter is the most trying time for young animals, and farmers should pay extra care to their health and comfort. They ought to have the open air as much as possible; and it is well to let them have convenient shelter during the storms, except in very stormy weather, when they ought to be put into close warm stables. They ought not to be confined in yards with older cattle, for fear of goring them, and they have not such a good chance for their food. They should be fed regularly, and have a chance to the water.

In addition to hay, lambs and calves ought to be fed daily with a small portion of roots, except in extremely cold weather. As for colts, they ought to be fed daily with ground feed, mixed with clover heads or chaff, which I think is preferable to oats or any other whole feed. They ought never to stand on a board floor, as it causes ringbone.

When I was a boy, I lived in Orange county, learning a trade; my employer used to keep four horses; he had two stalls in the barn, one with a plank floor and the other a ground floor. In the winter, when horses were not much used, those that stood on the plank floor were much stiffer in their limbs or joints when they came out of the stable, than those that stood on the ground floor. Since I have been a farmer, living on Long Island these last twenty years, I used the ground floor for my horses and colts; and I like it better than plank floor, except the saving of the manure and the urine which is wasted. I went to sea after I served out my apprenticeship in Orange county, as the second war with England had just broke out, and I had entered the service of the navy as a midshipman, which service I staid in for eighteen years; and after the war, I was on the South-Sea Station; and while on that station I had a great deal to do with horses, as there are plenty in South America, I saw a great many, and rode a vast number. I found them very nimble of foot, their hoofs hard. I was informed by the owners that they stood on ground floors, and that they liked it better than a hard one; and that their horses' food was barley and barley straw; for that was all that they gave them. The horses were in good condition. A LONG-ISLAND SUBSCRIBER.

Govanus, L. I., Dec. 29th, 1849.

DRILLING GRAIN—THICK AND THIN SOWING.

I HAVE seen a good deal lately about Pennock's wheat drill, and its great superiority over broadcast seeding. I am a decided advocate for the use and employment of all labor-saving machinery, coming within the limited means of the great body of farmers; but I very much question if the friends of the above do not attach more importance to it than its merits really warrant. Mr. Charles Noble, on the cover of the Plow, Loom, and Anvil, states that from No. 1, an acre broadcast casted with two bushels of seed, he reaped 27½ bushels; while from No. 2, an acre alongside, but of inferior quality, drilled with 1½ bushels of seed, he secured 35 bushels; thus saving 3 pecks of seed, and gaining 7½ bushels

by increase of crop, which he attributes to the use of the drill. That may be; but I will warrant, had Mr. Noble stated the case to any Accomack farmer, he would have told, as quick as asked, which acre made the most profit; and I would be willing to wager a year's subscription to the *Agriculturist*, that had three pecks been sown on No. 1, instead of two bushels, by a good seedsman, it would have beaten No. 2. Let the owners of the drill try it, by broad-casting and drilling equal quantities of seed on a given surface of equal fertility, and if all things equal, there is an increased yield on the drilled land, then it may be regarded as some evidence of its superiority.

Is there *economy* in the use of the drill? It seems to me that while you are preparing your land for the drill, I could sow my wheat in the same time, and be done with it. I have had some little experience on this subject, which has satisfied my own mind, not of the superiority of Mr. Pennock's, nor Mr. Anybodyelse's drill, but of the great superiority of *thin* over *thick* seeding.

Several years since, a friend and myself wagered a trifle on the product of an acre of wheat; he seeded three pecks—I two bushels. His acre was left in the roughest possible condition; while mine, manured, limed, plowed, and dragged several times, was like a kale bed. His wheat stood thin on the ground, branched well, had heads six inches long or more, well filled, and yielded 45 bushels. Had it been well harvested and threshed, I thought, (and good judges agreed with me,) it would have made 50 bushels. Mine was thick and luxuriant, with heads less in length than my little finger, and produced 17 bushels; yet I had three times the quantity of straw.

One October, I seeded four bushels of white-bearded wheat on No. 1, three acres of ordinary corn land, and in November, after the plow had been *once* stopped by the frost, I seeded two bushels and four quarts of the red-bearded variety on No. 2, three acres of inferior land; harvested the 1st of July; both lots very much injured by rust. Product of No. 1 was 25 bushels; product of No. 2, 31 bushels. A tenant on three acres of land of similar quality, from 1½ bushels of seed, reaped 36 bushels.

I determined at one time to grow rye, and for that purpose procured a bushel of seed from an old gentleman, who charged me, as I was a young beginner, not to sow more than half a bushel to the acre. I did so, and took 14 bushels from the acre. Before next seeding time, I got hold of a copy of Lorrain's work on husbandry, which informed that I ought to sow at least two bushels to the acre. The first time I met with my old "fustian jacket" friend, I told him what Lorrain said, and that I had followed his advice. With a laugh he replied, "I'll bet you a ginger cake that you come to me next fall for more seed." And so I did; for, although my rye was the admiration of all who saw it while growing, I reaped nothing but a crop of straw. And a certain honorable gentleman in these parts, and a great advocate for *thick* seeding, were he so disposed, could tell a rye story fully as bad, if not worse, than mine.

Once more. The late J. H. D., decidedly the best farmer in Accomack, who had, by a well-directed industry, even under the everlasting system of corn and oats, brought a very poor farm to a high state of fertility, informed me, a short time before his death, that a few years since, he sowed two acres with the potato oat, which, in consequence of a severe frost, of several days' continuance, were nearly all killed. A few, however, came up, standing thin enough on the ground to be worked with a hoe. He determined, at one time, to plow the lot up, and put it in corn; but, as it would have to be fenced, he concluded to let it stand. The two acres produced 80 bushels; while not a single acre, seeded after the frost, with the usual quantity of seed, yielded 25 bushels. Suppose, on these occasions, the drill had been used, would not the different results have been attributed to it?

NUGATOR.

Accomack Co., Va., Dec. 20th, 1849

As our correspondent has brought facts to substantiate his theory, his argument in favor of thin sowing, in his soil and climate, is incontrovertible. But a different soil or climate might make a great difference, and demand thick sowing. A cold, moist climate, or a very stiff, clayey soil, requires an additional quantity of seed; for, in the former case, more or less rots before vegetating, while, in the latter, it cannot be well covered.

We have made repeated experiments between thick and thin sowing, in different soils, and find that four quarts of clover seed will produce as good a stand, in a rich, friable, limestone soil, as 24 to 32 quarts will, on a stiff clay. In grass seeds, the difference is not so great; grain requires about double the quantity of seed.

The first part of our correspondent's letter is highly amusing; and if our periodical were not so sober and matter-of-fact, we would gladly insert that, also. If he will inform us who he *really is*, we will take care that Mr. R. "eats salt" with him, at some future day; and we have no doubt, if we could at the same time contrive to drop into the "cage," together with the "old tar" and the "Sargeant," we should make an *improving* night of it.

WHEAT BRAN AS A FERTILISER.—This has been tried by several persons in Delaware with great success. It is said that a handful to the hill will double the corn crop. Care must be taken to cover the bran, before dropping the corn, or the fermentation will kill the seed if in direct contact with the bran. It is said to be equally valuable upon wheat. The matter is worth experimenting upon. It is hoped that those who try it will give us the details, for the benefit of our readers.

CLOVER-SOWING MACHINE.—VERY SIMPLE.—Much of the clover upon the James-River plantations, is sown by a very cheap, simple contrivance of a box, made of thin, light wood, four inches deep, three and three quarters wide, and thirteen feet long, divided into thirteen equal parts, with

twenty-six half-inch holes through the bottom, six inches apart; that is, two in each division. Over these holes, tack a piece of tin, through which make a hole, about three sixteenths of an inch, larger or smaller, until it is found by experiment, that it will sow just the quantity per acre that you desire. This implement is carried by a strap, around a man's neck, who shakes it as he walks, and sows a bed 15 feet wide. It appears to be not only a labor-saving implement, but a crop-increasing one.

WIRE FENCES.

WE have so many enquiries addressed to us on the subject of wire fences, that we find it necessary to answer in a brief article. They possess several prominent advantages—economy of room, economy in expense, economy in repair, durability, and tastefulness. Wherever timber is not absolutely without value, a wire fence is cheaper than the commonest zig-zag, or Virginia-worm fence. It costs less than laying a stone wall, even if the stones were hauled gratuitously. The expense of keeping in repair is less than that of any hedge fence or wall, unless the latter is of the most massive kind, and it occupies, comparatively, no room.

The durability of annealed wire, will probably equal that of any posts, though this fact has not yet been fully tested. Our belief, however, is, that it will last from 25 to 40 years, if annealed, and not exposed to the influence of salt spray, near the Atlantic coast. To obviate rusting in such situations, it may be covered with coal tar, or any of the cheaper kinds of paint. Galvanising adds two and a half cents per pound, without materially increasing its durability. Annealing is believed to be all that is required, to prevent injurious corrosion.

To answer the numerous enquiries for the cost, weight, and sizes of wire, annealed and properly prepared for fences, we append the following table, published in the last volume of our paper.

Class of wire.	Diameter in hundredths of an inch.	Weight per lineal rod.	Weight per lineal mile.	Retail prices per pound.
No. 1	0.32	4 lbs. 2 oz.	1321 lbs.	\$0.09 cts.
2	0.30	3 " 10 "	1166 "	0.09 "
3	0.27	2 " 15 "	944 "	0.09 "
4	0.25	2 " 8 "	809 "	0.09 "
5	0.24	2 " 5 "	746 "	0.09 "
6	0.22	1 " 15 "	627 "	0.09 "
7	0.20	1 " 9 "	518 "	0.10 "
8	0.18	1 " 4 "	419 "	0.10 "
9	0.16	1 " 0 "	331 "	0.10 "
10	0.15	0 " 14 "	291 "	0.11 "
11	0.13	0 " 10 "	219 "	0.11 "
12	0.12	0 " 9 "	186 "	0.11½ "
13	0.10	0 " 6 "	129 "	0.12½ "

From 25 to 40 per cent. will be discounted from the foregoing prices, according to the quantity, when purchased by the coil.

We reiterate an important fact, mentioned in a recent number of the Agriculturist. The linked ends of the wire should be bent while hot, although previously annealed; but as this is required only where attached to the post, it takes but a moment of time, and it can be easily done, by having a small quantity of ignited char-

coal in a light, portable furnace, or any small, iron kettle, in the field where required.

The sizes of the wire, their space, and the distance between the posts, should depend on the class of animals to be controlled. No. 6 wire will fence against cattle, horses, or swine; and sometimes wire as small as Nos. 8 or 9, is used. Nos. 10 to 12 are sufficient to restrain sheep, or the young of any animals. If the wire is properly stretched, posts may be at the distance of 100 feet; but some place them within 20 feet of each other. We cannot give advice as to the exact distances to place the posts. Every person putting up a wire fence, must be his own judge as to this matter, as there are so many different circumstances to be taken into consideration, where the fence is to be put up. It may be fastened to each post, or not, but should be firmly secured at each end. For an ingenious way of doing so, see Col. Capron's plan, as detailed on page 255 and 256, of our eighth volume; and for additional information on wire fences, see preceding volumes.

LIME AND PLASTER AS MANURE.

J. D. H., of Ulster county, has, for several years, used a mixture of lime and plaster of Paris on his corn fields, with the happiest results. He thoroughly mixes equal quantities of lime and plaster, and applies a large, table-spoonful of the compound to each hill of corn, immediately after planting. Thus the composition becomes partly incorporated with the soil, before the corn makes its appearance. The good effect of this application is visible through every stage of the corn's progress; and the crop comes to maturity several days sooner than it would without the application.

J. D. H. gives his corn a second application of plaster at the time its sets, (the ears,) are forming, and is careful to sprinkle the plaster on the sets, and the adjacent parts. I am of opinion that the practice is a very good one, as both are good fertilisers. G.

We think the beneficial effects of the above application, for the first season, is almost exclusively due to the plaster. The lime will be principally felt in the subsequent crops.

A NEW FERTILIZER.—The Hon. Henry A. Wise, of Virginia, informs us that he has discovered a new means of adding fertility to his land, in the use of sea sand. To one load of fresh stable manure, he adds three loads of sand, from the very surface of the beach, between high and low water marks; with this he covers the pile of manure, a few inches deep. The salt prevents fermentation in the heap; the sand contains considerable fertilising property within it, from the shells, animalculæ, and sea weed. He finds a load of this mixture to be far more valuable than a load of manure alone. It is an experiment so easily tried by all sea-side farmers, that we commend it to their notice. Salt muck is still more valuable.

BISCAYAN MODE OF CULTIVATING ASPARAGUS.

THE Biscayan mode of cultivating asparagus, as detailed in the Gardeners' Chronicle, is to form beds about 5 feet in width, and of any convenient length, and to sow the seed in March in two drills, 2 inches in depth, and 18 inches from the alleys; thus leaving a space of 2 feet between the drills. When the seedlings are about 6 in. in height, they are thinned to something more than a foot apart. Water is conducted once a day among the alleys and over the beds, so as to give these seedlings an abundant and constant supply of fluid during the season of their growth. This is the cultivation during the first year.

The second year, in March, the beds are covered 3 or 4 inches in thickness with town sewerage, which remains on them during the summer, and which is lightly dug in during the succeeding autumn; the irrigation being continued as during the first season. In the third spring after sowing, the asparagus is fit for cutting, all its energies being doubtless developed by the manure being dug in, the autumn of the second year; and when it does begin to sprout, it finds its roots in contact with soil of inexhaustible fertility. Previously, however, to the cutting, each bed is covered, in March, very lightly with dead leaves, to the depth of about 8 inches. The cutting does not commence till the plants peep through this covering, when it is carefully removed from the stems, in order that the finest only may be cut, which are rendered white by the leafy covering, and succulent by the excessive richness of the soil.

In the autumn of the third year after the first cutting, the leaves are removed, and the beds are again dressed with town sewerage, and these operations are repeated annually. In addition to this, the asparagus ground is so situated that the beds are half under salt water at spring tides.

PROFITABLE FARMING.

AMONG a thousand instances of successful farming that might be named, is that of Mr. C. P. Holcomb, of Newcastle, who purchased about 320 acres of land, three miles from Dover, some seven years ago, for \$2,400. Mr. Holcomb's farmer says, that when he took possession of the place, he could not find hay or straw enough upon it to make a hen's nest, but had to resort to the old field to gather poverty grass for that purpose.

This place had been carried on by hired labor, the owner living upon another farm, some 30 miles off. And yet, by a judicious expenditure for lime, and proper system of crops, the value of it has been raised to \$6,000, besides paying all expenses, and leaving a surplus of profits. It is now in a condition to continue to be profitable; and yet the former owner could not support his family upon the place. If you would know the reason, it is this—he cultivated the land just as his father did before him; with a little, mean, one-horse plow, with which he scratched the surface about two inches deep, or less, and planted corn after corn, without manure

(for how could he make manure with such farming?) until he had skinned everything off the surface, and really thought that the land was "worn out." The present owner has been well known as a Philadelphia lawyer—perhaps it was his legal skill that enabled him to "take the kinks out" of this knotty case.

EATING HORSE MANURE.

C. D. M., of Pennsylvania, asks what is the best remedy to prevent horned cattle from eating horse manure; and what it is that induces them to eat it?

We think there are several reasons why cattle and sheep eat horse manure. First, hunger. Second, the salts with which it is impregnated. This would be remedied by giving them salt, ashes, sulphur, &c. Third, the horse imperfectly digests much of his food, and just that part which his stomach has omitted to fit for appropriation in his system, is thrown out in his feces, and is probably better fitted for the horned beast or sheep.

Every person of observation has noted the successive cropping of various plants, yielded in an old pasture. One class of these is eaten by the horse, another by cattle, and still a more numerous variety by sheep. The same preferences are manifested by them for the forage when cured; and the animal taste is a tolerably correct index of what is best suited to their constitutional wants, which vary according to the season, habits, food, health, and other circumstances.

If the cattle have all the condiments, (salt, &c.,) they require, and an abundance of good and appropriate food, we think they may be permitted to nibble at the heap of horse manure with entire impunity.

GEORGIA FARMING.

THE present year, I concluded to plant less cotton and cultivate it better; so, instead of 260 acres, as usual, I only cultivated 120. I find, now, I have done much better than I ever did before; for I have made 25 bales more cotton, this year, on the 120 acres, than formerly on the 260 acres.

In addition to this, I have the greatest plenty of corn, and have now over 1,000 bushels of sweet potatoes left, after feeding my hogs on them for the last two months.

J. B.

Hancock Co., Ga., Dec. 29th, 1849.

IMPROVEMENT IN SUGAR MAKING IN THE ISLAND OF CUBA.—By the Havana papers, we learn that several planters on the island have recently made experiments with the bi-sulphate of lime, recommended by Mr. Melsens in the improvement of sugar making. They were in all cases most satisfactory. The "Faro" says that Mr. M has established a well-founded claim on the gratitude of the Cuban planters, by his disinterestedness in making known his *modus operandi*, and suggests that a gratuity of \$100,000 be awarded him by subscription—or rather hogsheads of sugar to that amount, prepared according to his invention.

THE CASTOR BEAN.

THE castor bean, or palma christi, (*Ricinus communis*.) is indigenous to South America and the West Indies, but has long been cultivated in the southern part of Europe. It has for many years occupied a share of the attention of some of the farmers in the western states, south of lat. 40°. It has been raised with advantage as far north as New Jersey, and it will grow in the most northerly states of the Union, where it is often raised as an ornamental plant.

It requires a rich, loamy soil, well pulverised by deep plowing and harrowing. It is planted like Indian corn, when all danger of frost is removed, in rows six feet apart, and hills four feet distant from each other. The cultivation is performed with the hoe, plow, or cultivator, till the plant has attained a height of two feet, or more, so as to shade the ground and prevent the growth of weeds. The young plant is greedily devoured by the cut worm, and as it is important to have the full season to mature it, where there is danger from this source, it is better to plant thickly, say 8 to 12 seeds in a hill, and then thin out to two, after all danger is removed. Some allow but a single plant to remain in the hill, and think they secure a greater yield of seed,



CASTOR BEAN.—FIG. 25.

than if more were left. The harvesting commences as soon as the pods begin to ripen, which, near the Ohio River, is about the middle of August. A kind of jumper, or light sled, with a horse attached, is used to pass between the rows, and receive the ripened pods as they are cut from the branches with a sharp knife. These are placed upon a smooth piece of ground, on one side of the field, frequently termed the *popping ground*. When thus fully exposed to the sun, the pods contract and burst, often shooting out the seed to a distance of several feet. As the season advances, the crop continues rapidly to mature, and it is gathered till the frost effectually prevents any further growth.

The plant is utterly worthless except for its seed, which it produces at the rate of about 15 bushels per acre, though 30 are sometimes raised, worth about \$1 per bushel, on the farm. After *popping*, the seed only requires to be run through a fanning machine, to separate the dirt and chaff, when it is ready for market or use.

The oil is extracted by crushing and *cold pressing*, which gives nearly a gallon of the best oil

for each bushel of seed; or the seed is boiled, either raw or after slightly roasting, and the oil is skimmed off as it rises to the surface. This yields a greater quantity of oil than cold pressing, but is of decidedly inferior quality.

The oil has been recently used for combustion, after separating it into olein for lamps, and stearin, for candles. The quantity imported into Great Britain, in 1835, was 1,109,307 lbs., of which 670,000 was consumed, the remainder having been re-exported.

A company has lately erected a mill in Cincinnati, Ohio, for manufacturing castor oil in the most economical and approved manner. It is to be hoped that this will stimulate the production of the castor bean, far beyond what it has ever before reached in this country, and that it may soon become one of our important articles of export, besides fully supplying the home market. The present price of castor beans, in that market, is \$2 per bushel.

FARMING IN MISSOURI.

WHEN I first settled here, I imitated others. Sometimes this did well enough; at other times I found it was all wrong. I then began to make little innovations, such as plowing as deep as my team could pull the plow—provided I had what I supposed to be a sufficiency of soil—hauling out all the rubbish I could collect about my stable and cowyard, plowing in my wheat, after having given my ground from one to three plowings and harrowings before seeding, breaking up corn land twice before planting, &c. Now, will you believe it? I have been, and am still, laughed at for all this. But I could not make good crops without it. The truth is, to make a good crop of anything, I have to work.

Since reading your paper, resources have presented themselves, of which I never should have thought. It is only three miles from my farm to town. The tanner will give me all his bark and leather shavings, the saddlers and shoemakers will give me their shavings, the proprietors of steam mills will give me their ashes, which contain a considerable quantity of charcoal; then there are livery and other stables, and many other resources, all of which I can resort to, free of charge. At home, I have an excellent limestone quarry, in the centre of my farm, which I have opened and worked considerably; and I last year spread a quantity of lime on one of my worn-out patches of ground. I have a pit walled, and always ready.

These, I find, from reading your paper, are all elements of fertility, if I only knew how to manage them. I shall begin my operations by turning in clover and buckwheat, and bring in the other helps as I learn how to do it. To all this, I may add, that you have pointed out modes of doing work on a farm, that I have never seen practised, but which, I feel confident, are better adapted to success, than those we follow here. Your management of meadow lands and wheat, is surely good.

The past was a bad season, in this section, for corn and wheat. I never performed such a season's work for corn, and I raised a tolerably

fair crop, under the circumstances. One of our papers makes the following notice of it:—

“Large Corn.”—We have been shown some specimens of corn, which, for length and weight, considering that the ears were raised from a field that fails about four, out of every five seasons, surpasses anything of the kind we have yet seen. The corn comes from the farm of Mr. Oglesby, residing two or three miles from this city, and the following is the measurement:—The first 18 ears weighed 28 lbs. A single ear measured $10\frac{1}{2}$ inches in circumference; containing 28 rows, and 1,512 grains of corn. Twelve other ears measured 12 ft. 5 in. This, taken all together, excels any corn we have yet heard of; and we invite our farming friends to bring in their specimens and beat it! This is but another of the thousand instances of the fertility of the soil of this country, and its adaptation to the growth of all kinds of produce.”

This corn was not raised on my farm, but on a field which I rented, a mile and a half from home. It contained 20 acres of what is called here bottom prairie; a low, cold, wet, dead, sticky soil, adhering to the feet when a little wet, almost like tar. I had my own fun, though I worked hard. It was confidently and exultingly predicted, that though I could raise corn on my poor hills, by putting on them the labor I did, yet that pond would “bog” me. The season was extremely wet throughout. Many acres, in the same bottom, and on higher ground, were totally lost—drowned. Weeds and grass sprang up, and grew at an unprecedented rate, putting their enemies, (plows, horses, and drivers,) to flight. They gave it up, and surrendered. URBANE B. OGLESBY.

Boonville, Mo., Dec. 17th, 1849.

THE CANADA LYNX, OR BIG, GREY WILD CAT.

The Canada lynx, (*Lynx borealis*), which has often been confounded with the common wild cat, (*L. rufus*), and the wolverene, (*Gulo luscus*), according to Audubon and Bachman, is more retired in its habits than the former, keeping chiefly far from the habitations of even the settlers who first penetrate into the depths of the wilderness. Its beautiful, fine, long fur, so much used for collars, muffs, &c., enables it to withstand the cold of our northern winters, both in the wooded countries north of the great lakes, and certainly as far south as the mountains of Pennsylvania, dispersed over many degrees of longitude, even occasionally approaching the sea coast. It exists in Labrador, the Canadas, and on the Mackenzie River as far north as 66° . It still occurs, although sparingly, in several of the New-England states.

The Canada lynx, like all other animals of its general habits, breeds but once a-year, usually producing but two young at a birth, though rarely three whelps are littered at a time. The full-grown animal measures a little over three feet from the point of the nose to the root of the tail, and the length of the tail to the end of the hair, is about six inches more. The weight will

vary from 15 to 25 lbs. Its food consists of several species of grouse and other birds, the northern hare, grey rabbit, chipping squirrel, and other small quadrupeds, occasionally attacking and devouring deer, sheep, lambs, poultry, and pigs. It is said, also, to pounce upon the wild goose, at its breeding places, and destroy the wild turkey while on her nest.

When alarmed, or when pursued, the Canada lynx leaps or bounds rapidly in a straight direction from the danger; and takes to a tree, if hard pressed by dogs. It is very strong, and possessing remarkably large and powerful fore legs and claws, is able to climb trees of any size, and can leap from a considerable height to the ground without feeling the jar, alighting on all four feet at the same instant, ready for battle or flight. If dislodged from a tree by the hunter, it is instantly surrounded by the dogs, in which case it strikes with its sharp claws and severely bites. It has been stated “that it never attacks man,” which remark, as a general rule,



THE CANADA LYNX.—FIG. 26.

is applicable to most of our beasts of prey; but this is a mistake, as an instance is fresh in our recollection of a young man, about seven miles west of Exeter, New Hampshire, who was attacked a few years ago by one of these animals, and had his clothes nearly torn from him, and probably would have been greatly injured, had not his brother, who was near by, seasonably killed the lynx by striking him with the pole of an axe. For several years preceding, a considerable havoc had been made in the neighborhood amongst the sheep, poultry, and lambs, which was generally attributed to foxes and dogs.

It is stated that this animal is usually captured by the northern hunters in steel traps, such as are used for the beaver and otter, into which it very readily enters.

The Canada lynx swims well, and it is said that it will cross the arm of a lake two miles wide—a habit which is also shared by its more southern and mischievous congener, the common wild cat, which will particularly be considered in our next.

HOME-DEPARTMENT AGRICULTURAL REPORT.

It gives us much pleasure to state, that our old friend, Dr. Lee, has been appointed to make up the Agricultural Report of the Home Department. He has been favorably known for some time past as the editor of the *Genesee Farmer and Southern Cultivator*, and from his intimate acquaintance with agriculture, we shall expect to see an able and reliable report from him. The following is his Circular:—

To favor this undertaking, I respectfully solicit information on all topics appropriate for such a document, and particularly in reference to the inland commerce of the country. The movement of agricultural products on lakes, rivers, canals, and railways, is a subject of interest to all intelligent farmers and business men.

Crude guessing in regard to the quantity of grain and other crops grown in the current year, can possess but little value a few months in advance of the U. S. census, so soon to be taken. Improvement in the practice, and progress in the science of agriculture are objects of great moment at this particular time. The public mind is now more engaged in the work of improving lands, and educating young men not less thoroughly to be farmers than doctors or lawyers are professionally educated, than at any earlier period. Thousands begin to appreciate the fact, that, no limited piece of earth can possibly contain an unlimited quantity of the atoms necessary to form good crops of grain, cotton, tobacco, or potatoes. The elements of bread and meat in any given soil or field being quite limited, the waste of these elements, when extended over many millions of acres, becomes a matter of paramount national importance. That the quantity of atoms in every cubic foot of soil, or earth, which can be transformed into wheat, is uniform or alike in all cases, no observing farmer can for a moment believe. If this were the case, then all soils would be alike productive of this valuable crop.

Different soils of varying fertility, possess equally varying amounts of the available constituents of all cultivated plants. If the supply of raw material for making all crops is really inexhaustible, why should any man ever be at the trouble and expense of hauling manure, or of purchasing lime, ashes, gypsum, or guano? The use of fertilisers tells the whole story—that the elements of bread and meat may be used up—wasted—utterly lost to the husbandman and the world. How much has been lost to the country since the beginning of the present century? Who can tell?

Great complaint is made by persons belonging to the American navy of the defective manner in which beef, pork, and butter are put up for consumption in tropical climates in this country. The navies of European nations are supplied with these perishable commodities in a condition to keep under the equator much longer and better than similar articles made in the United States. This defect is not creditable to American skill in curing meat, butter, and cheese. Nor is the preservation of breadstuffs so generally understood as is desirable.

Information on these and other subjects is sought not only at home, but from foreign nations with whom we have commercial and diplomatic intercourse. The collection and diffusion of useful knowledge in the cheapest possible form, are labors in which many can participate.

Should not the young men of America be reminded of their duty in this connection? Look on the broad surface of the Union, and mark the millions of acres of native forests which have fallen and disappeared at the approach of the woodman and his axe. The continued toil of the farmer has dug from the virgin earth nearly the whole wealth of the country. If no damage had been done to the lands under cultivation, our admiration of the industry, enterprise, and success with which they have been plowed, hoed, and harvested, would be unmingled with regret. But unfortunately, many millions of acres of American soil have suffered incalculable, if not irreparable injury. The economical renovation of partially-exhausted fields; and the cheap improvement of all farming lands that need it, are objects to which much time and study may be profitably devoted.

DANIEL LEE.

Washington, Dec., 1849.

 NOVEL METHOD OF GRAFTING.

I HAVE no wish to detract from the merit or credit of any man; but that "novel method of grafting," referred to by your correspondent from Mississippi, was practised by one of the oldest nurserymen in this state, from whom I learned the "art and mystery," some years since. It was termed "side grafting." When there is a deficiency of limbs, this "novel method" will answer to supply their place; but it will never make a good tree. They will be what is termed "lop-sided."

JACOB HEWES.

Leipersville, Delaware Co., Pa.

OYSTER-SHELL LIME.—The question is often asked, whether this is as good as stone lime for land. Who can answer? Another question. If oyster shells were ground when first opened, instead of burnt, would they not be more valuable to the land than after burning? They certainly contain a portion of animal matter, that is burnt out in making them into quicklime. This must have some fertilising properties, but whether to an extent sufficient to pay for grinding, is a question worthy of consideration. Let the matter be discussed.

INQUIRER.

GUANO—ITS EFFECTS.—Mr. Edward Harris, of Moorestown, New Jersey, in October last, sowed 400 lbs. of guano and two bushels of plaster to the acre, upon a piece of clayey-loam land; oat stubble turned under, which he harrowed in, and then sowed grass seed and harrowed in. On the 15th of November, he found it necessary to mow off the oats, for fear they would smother the grass, so rank they had grown from the effects of the guano and plaster.

Ladies' Department.

CHAMBER BIRDS.—No. 4.

CANARIES MAY BE TAUGHT TO FLY; but the trouble and risk are so great that it is hardly worth the time and care necessary to teach them. The male is first allowed its liberty in a place where there are trees, and the female is hung at a window near by, which speedily attracts him back to the cage in case of danger or fatigue. This teaching must be continued for five or six days, but no handling nor violent attempts to catch them should be used.

DISEASES OF CANARIES.—These birds, in a state of captivity, seldom enjoying the open air and having but little exercise, are subject to most of the maladies peculiar to the domestic, feathered race. The diseases to which they are particularly liable, may be described and treated as follows:—

1. *Rupture.*—This is a common malady, especially in young birds, and is a kind of indigestion which causes inflammation of the intestines. The symptoms of this disease are a lean, transparent, blown-up body, full of small red veins, and in which all the intestines seem to have fallen to the lower part of the body, where they become entangled and turned black. Too much nutritious food is the cause of this evil. All remedies appear to have been ineffectual in this malady, but assistance is sometimes obtained from a spare and simple diet.

2. *The Yellow Gall in the Head and Eyes* may be cured by refreshing food; but if there be a tubercle of the size of a hemp seed about the head or eyes, it must be cut off, and the wound anointed with fresh butter.

3. *Sweating.*—Some females, whilst hatching, have a sweating sickness, which is injurious to the blood, and may be detected by the feathers of the lower part of the body being quite wet. The body of the bird should be washed with brine, and afterwards with rain or spring water to free the feathers of salt, and then rapidly dried by the sun or fire. This may be repeated once or twice a-day. This sickness, however, is not so prejudicial to the bird as is generally supposed.

4. *Sneezing.*—This is occasioned by a stoppage of the nostrils, and may be removed by a very small feather being passed through them.

5. *Loss of Voice.*—If the male, after moulting, lose his voice, he must have diet similar to that given to young birds; that is, some thoroughly-baked, stale roll, dipped in boiled milk or water until completely saturated; then press out the milk and mix it with more or less, say a proportion of two thirds of coarse barley or wheat flour, freed from the husk, or bran. Some persons give them a slice of pork or bacon to peck.

6. *Constipation* is cured by giving them plenty of green food, such as water cresses, chickweed, sallad, &c.

7. *Epilepsy* is commonly brought on by too great a delicacy of treatment, and also by timidity, from alarm. Too great an abundance of rich food, and the want of proper exercise, whereby much and thick blood is produced, are

the chief causes of this disease. The birds ought to be kept free from alarm, either by catching or tormenting them in any way. When suffering under this complaint, if they are hot, it is recommended to dip them frequently into cold ice water, and then pare their nails so closely as to start blood. A few drops of olive oil, also, given internally have proved serviceable.

8. *Overgrown Claws or Beaks* require to be pared with sharp scissors. Care must be taken, however, not to cut the nails too close, as the birds would be liable to lose so much blood as to become lame. The end of the "red ray," or vein, both in the beak and claws, when held up to the light, show exactly how far they may be cut. During the hatching period, also, the nails of the female sometimes must be cut, in order that they may not be caught by them when in the nest.

9. *Lice* may be avoided by frequent bathing, cleanliness in the cage, and dry sand mixed with aniseed and scattered on the floor.—*Americanized from the German.*

PUMPKIN PIES.

By a Yankee Girl.—Select a fine-grained, marrow squash, cut it up and boil in as little water as possible. When it is perfectly cooked, strain off all the watery part, then pass the squash through a sieve or colander. Add to one pint of the squash one quart of new milk, four well-beaten eggs, and sugar, cinnamon, ginger, nutmeg, and salt to suit the taste.

The paste is made of lard, butter, cold water, and flour, well mixed. As we never weigh nor measure the ingredients, it is difficult to state the exact proportions, but with a little Yankee guessing to assist, I think the pies will come out about right.

All we can say to the above recipe of our fair correspondent is, that we have often had a taste of her pies, and found them the most delicious and luscious of the whole pumpkin family of Yankeeedom.

LATE RASPBERRIES.—These were picked from bushes growing in an open garden, without protection, in the vicinity of this city, on the last of November. They were the ever-bearing kind, described at length in the first volume of the *Agriculturist*. They usually ripen from July till October; but owing to the mild weather of November, the past year, they produced several weeks later than common. They were cultivated by a lady who raises much other choice fruit, and is one of the most skillful gardeners we know of.

TO KEEP MOTHS FROM WOOLLEN CLOTHING, CARPETS, AND FURS.—Place the articles in linen sheets, or bags, sewed closely together, first beating them, so as to clear off all moths and eggs. Camphor or tobacco, scattered through light trunks, where they are packed, is also a protection.

CAUTION.—Do not inhale the smoke of matches while ignited. It is highly poisonous.

Foreign Agricultural News.

We are in receipt of our foreign journals per steamer Canada, to 29th December.

MARKETS.—*Ashe*s dull. *Cotton* an advance of $\frac{1}{4}$ d. per lb. This makes an advance, altogether, for the past twelve months, of $2\frac{1}{4}$ d.—about equal to $\frac{1}{4}$ cts. of our money. *Flour* of the lower qualities of canal, in active demand. *Rice*, 40,000 bags were purchased in London on speculation, causing considerable excitement in the market. *Wool*, 26,000 bales were recently sold at an advance. This article is from 2 to 4 cts. per lb. higher than it was last September.

Money very abundant at 2 to 3 per cent., with an increased amount of bullion in the Bank of England.

Poultry Show at Birmingham.—A large show of all kinds of domestic fowls, recently took place at Birmingham. It was numerously attended, from many parts of the kingdom, and about \$250 were distributed, in small amounts, as prizes. The long-lost "shackbags" are said to have been re-introduced from Asia.

Ink for Zinc Labels.—The best ink for zinc labels is a rather weak solution of chloride of platinum or gold, mixed with a little gum Arabic, to prevent it running too freely in the pen.—*Gardeners' Chronicle*.

Farmers of Some Consideration in France.—We notice that when General d'Hautpoul, chief of the new ministry lately installed in France, first addressed the Legislative Assembly in regard to the measures the government would pursue, he stated that they would place the improvement of agriculture, and the protection of the interests of the farmer and labor in the first rank of their duties.

Apple Waste, or Pomace.—We have no analysis, but believe it to be rich in mineral matter. It is very difficult of decomposition. It rots very slowly, and therefore is of but little use as manure. The decay of it might be hastened by using it in compost with some rapidly-decaying substance, as horse dung; and then it would no doubt exhibit whatever useful properties it has.—*Ag. Gazette*.

A Prolific and Profitable Hen.—A hen of mine, of the half-bred game variety, has hatched off four clutches of chickens in the year, and brought up 51 of them. Thirty-six have been sold at 1s. 6d. each; three are now up fitting on barley meal and milk; the remaining brood, twelve, are three fourths grown. The produce of this hen in the twelve months is worth £3 10s. She has laid eggs besides, almost sufficient to pay for her own picking.—*Farmers' Herald*.

Extraordinary Yield of Barley from Spade Culture.—One of my neighbors has a small piece of ground in tillage, one half of which is generally in potatoes, and the other in corn, which half has grown barley this year, and produced a crop equal to eighty-eight bushels the acre. The land was dug over last autumn, and then sown in April, very thin. I recollect it looked very thin after coming up, but tillered very much afterwards, and made a rank crop—of course, the land is first rate.—*Farmers' Herald*.

Saltpetre Poisonous to Pigs.—It is well known that saltpetre has the valuable property of removing the taint of turnip taste from butter; and a small quantity put into the churn with the cream renders the butter sweet and pleasant. In one case, the butter from one cow was made twice a-week; and to this quantity about a teaspoonful of saltpetre was added, and the butter-milk given to the pigs. It was observed that the pigs, (about two months old), after drinking the buttermilk, were very uncomfortable, and as little notice was taken of the affair, they got over it as best they might. However, it was not so on the next day of churning; for both

pigs were taken violently ill, vomiting and purging; and when all hopes of saving their lives were gone, they were put out of pain by killing.—*Farmer's Herald*.

Treatment of Fruit Trees Disposed to Canker.—Around all those trees which are manageable for size, and free from disease, a trench is taken out at such distance from the stem as may be judged by the branches sufficient to the preserving all the radicals, so deep as to get them undermined, and the soil carefully separated from the fibres, and thereby of no avail to the tree. The pit being again prepared, and made up to within nine or ten inches from the surface, fill with a layer of well-decomposed dung, mixed with the soil of the border, and next a layer of leaf soil, upon which the roots should be laid out as in training the shoots upon a wall; this being done, cover with another layer of rotten leaves, and above another layer of rotten dung, then water well, so as to fix the soil round the roots; when settled, finish with the soil from the border—a mulching of straw or dung in frosty weather will be requisite, till the roots again take with the soil. The process of transplanting should be repeated as the appearance of the tree would justify.—*Ibid*.

Successful Transplanting a Large Cedar in 1886.—This operation took place when I was gardener at Durham Park. The tree stood in front of a new conservatory that was being built; it was 30 years old, 20 feet high, 2 feet in circumference, at one foot from the ground, and 48 feet round the extremities of the branches. I cut the roots all round to the very bottom, 4 feet from the stem, in April, in order to cause it to produce young fibres to support the ball, as well as to secure the life of the tree. In the following November it had made roots 6 in. long; but I am now of opinion that before large trees are moved, the whole of the large roots should be cut two years previous to lifting. The next point is to make a puddle for planting; this ought to be so thick that the ball will make its way slowly to the bottom of it; then guard against high winds. The most effective way of doing this, perhaps, is to join cross pieces of wood, enclosing the stem, and to drive down a post at each end of such pieces, 3 or 4 feet into the solid earth, nailing their tops firmly to the cross pieces just mentioned. If this is properly done, no wind will overturn the tree.—*Correspondent to Gard. Chron.*

Smithfield Show of Fat Cattle.—This began on the 11th of December, and continued four days. The animals exhibited were not quite so great monstrosities of fat as heretofore, which is an improvement. An animal may be over as well as underfatted; and the English have heretofore, at such shows, greatly erred, in creating monstrous mountains of fat, instead of lean, tender, juicy, and well-marbled meat. The report of the London Agricultural Gazette says—Mr. Jones, from Huntingdonshire, took the first prize, on a four-year old Hereford cow. The bulk of the carcass formed the very proper size of containing the greatest weight in the least possible compass, and that without destroying the necessary symmetry, either by an overgrown coarseness, or a puny diminution. The girth measured 9 ft. 4 in., and the length 5 ft. 4 in. Beyond all exception, the length of the body was uniformly covered with useful flesh, and not in lumpy fatness, but in a regular covering, from the shoulder to the tail. The only defect, and that not a large one, was the barness of the upper fore point of the shoulder, which appeared more visible, owing to the very great superiority of all other points. The ribs, fore and middle, were covered in the thickness of inches, and the hock bone was completely hidden. We think the show never at any time exhibited a better, and very seldom an equal, animal to the one now mentioned.

Editors' Table.

TO CORRESPONDENTS.—Whoever writes us a good article of a page or more in length, shall be entitled to the *Agriculturist* one year gratis. All articles required to be inserted in a particular number, should be sent one month in advance.

MR. SOLON ROBINSON is now in the vicinity of Charleston, South Carolina, where he can be addressed.

ERRATUM.—By some inadvertency, we overlooked an error in the article on Dwarf Pears, at p. 18 in our January number. Instead of \$26.60, it should have read \$266. It is thought that this additional item would be covered by the proceeds of the crop, before the end of the tenth year.

THE ENGLISH-FARMER'S HERALD for December, copies a half page from the *Agriculturist* without credit. The article is entitled, "Potash for Agricultural Purposes from Granite."

LARGE HOG.—The Westminster Carrolltonian says, there was a hog exhibited in that place, last week, which weighed 1,400 lbs. The same paper says, a potato raised by John Wadlow, of Freedom district, measured 17 inches in circumference, and weighed 1 lb. 3 oz.

DR. LARDNER'S POPULAR LECTURES on Science and Art, in 2 vols., octavo. New York: Greeley & McElrath, 1849. This work embraces numerous lectures on almost every topic of a scientific and practical character, a part of which were delivered throughout the principal cities and towns of the United States, a few years since. The work embraces all the information embodied in those lectures, with copious additions of discoveries and improvements to the present time. Few writers possess a firmer grasp on the leading principles of science and art than Dr. Lardner, or can present them in a more popular and comprehensive form. These volumes must continue to have, as heretofore, a wide-spread popularity.

AUDUBON'S QUADRUPEDS OF AMERICA.—Part second of this valuable and interesting publication is received, and like the preceding, is handsomely illustrated. Besides its merits as an entertaining work for general reading, for old and young, it will be found a standard reference for the subject treated, and deserving a niche in every gentleman's library. *It is of material value to the Farmer*, as it treats of the habits and modes of capture of many animals peculiarly injurious to crops, such as squirrels, moles, rats, mice, woodchucks, &c.; or those larger predatory animals, destructive to poultry and flocks, as the fox, wolves, wild cats, &c., both of which classes are fully noticed in those portions of the work already issued. It is for sale by V. G. Audubon, 43 Beaver street, New York.

GOOD COWS.—Under this head, we copied an article into our paper, last month, page 37, and gave credit to Mr. Skinner's periodical, "The Plow, Loom, and Anvil;" whereas, it ought to have been credited to that excellent publication, the "Cultivator," by Mr. Tucker, of Albany. We regret this error, but the fault was not ours; for we copied it as original, either from the *Plow, Loom, and Anvil*, or we found it in some exchange paper, credited to that work. This we recollect distinctly. We perfectly detest the practice of copying, (we call it stealing,) articles from papers without giving the proper credit; and whenever anything of the kind is found in our paper, we shall feel quite obliged by having it pointed out to us for correction. And while on this subject, we will add, that no paper suffers more than ours, in the way of pillaging. Scores of articles are constantly *stolen* from it without credit, and sometimes, when we take the liberty of pointing this malpractice out to the offending parties, they have the impudence to take offence, and heap abuse upon us, instead of

acknowledging their fault, and making an honorable amend.

EWBANK'S HYDRAULICS AND MECHANICS. New York: Greeley & McElrath, 1849.—A descriptive and historical account of hydraulic and other machines for raising water, ancient and modern; with observations on various subjects connected with mechanic arts, including the progression and development of the steam engine, with descriptions of every variety of bellows, pistons, rotary pumps, fire engines, water rams, &c., &c.

This is a valuable octavo, of over 600 pages, written by an experienced and scientific gentleman, now appropriately placed at the head of the Patent Office, at Washington. The work has had an extensive sale, and is worthy a place on the shelves of every well-selected library. The subjects treated are entirely of a practical character, and are considered with a full reference to the latest and most improved information to the present time.

DUTCHESS-COUNTY AGRICULTURAL SOCIETY.—The president, Mr. Dubois, has issued a circular, proposing to hold, during the winter, in different sections of the county, several meetings, under the auspices of the Dutchess-County Agricultural Society, for the purpose of discussing agricultural subjects, and for exchanging views upon topics of importance to practical farmers. The first meeting will be held at the house of S. Tomlinson, Washington Hollow. The subject for discussion at that meeting, will be Indian corn—its most valuable varieties for general production—best mode of cultivation—most suitable manure, &c. Members are requested to be present; also, farmers who are not members, are particularly invited to attend, and assist in elucidating this important subject. It is desirable, for the purpose of comparison, that a few ears of corn should be brought by each farmer, as specimens of his crop.

HIGH FARMING.—Col. H. Capron, of Laurel Factory, Maryland, it appears has taken the lead the past season among the farmers of Prince George's county, in the cultivation of wheat, Indian corn, and several other crops. Annexed is the substance of his methods of cultivating wheat and corn, as furnished by himself, and published in the *American Farmer*: A field of 59½ acres, from which was taken 5 acres of corn, is partly low, alluvial ground, reclaimed by draining from a wet marsh, and partly upland old fields, improved by manuring and deep plowing. The field had been in grass for several years, and was plowed up deeply the fall before. The upland was manured before plowing, with stable manure. Last spring, it was well harrowed, cross-plowed, harrowed again thoroughly, and rolled—covered with 100 bushels of ashes per acre, and planted in drills 5 feet apart, dropping 24 in. with a corn planter. As soon as the corn made its appearance, the two-horse harrow was started, with the centre tooth out, running with the rows, and followed by the corn rake—raking right and left through the corn. The cultivators were then started and kept going until laid by—followed, after the second working, by the hoes. The corn was planted from the 24th of April to the 2d of May. The yield was on one acre 91½ bushels of shelled corn; on the second, 94 ²⁴/₁₀₀; on the third, 109 ⁵⁶/₁₀₀; on the fourth, 116½; and on the fifth, 117½ bushels of shelled corn (yellow Oregon variety).

The product of one acre of wheat, was 39 bushels and 36 lbs. of prime wheat; of five acres, 170 bushels and 50 lbs. prime wheat, weighing 60 lbs. to the bushel. This field was a clover lay, having been previously improved with lime, ashes, and other manures—plowed in September, 1848—turning under about 300 lbs. of Peruvian guano per acre—rolled and harrowed thoroughly—seeded with white, blue-stem wheat, harrowed in with grass seed and rolled.

Review of the Market.

PRICES CURRENT IN NEW YORK, JANUARY 16, 1850.

ASHES, Pot.,	100 lbs.	\$6.62	@	\$6.69
Pearl,	" do.	6.06	@	6.12
BALE ROPE,	" lb.	.09	"	.11
BARK, Quercitron,	" ton.	37.00	"	38.00
BEANS, White,	" bushel.	75	"	1.25
BEESWAX, American, Yellow,	" lb.	19	"	.22
BOLT ROPE,	" lb.	.10	"	.11
BONES, Ground,	" bushel.	40	"	55
BRISTLES, American,	" lb.	25	"	63
BUTTER, Table,	" "	15	"	25
Shipping,	" "	.09	"	.15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	45
Stearine,	" "	35	"	30
CHEESE,	" "	.05	"	.10
COAL, Anthracite,	2,000 lbs.	5.00	"	6.00
CORDAGE, American,	" lb.	.11	"	.13
COTTON,	" "	.10	"	.15
COTTON BAGGING, Am. hemp,	" yard.	.15	"	.16
FEATHERS,	" lb.	.30	"	.40
FLAX, American,	" "	.08	"	.09
FLOUR, Ordinary,	" bbl.	4.50	"	5.50
Fancy,	" "	6.50	"	6.50
Richmond City Mills,	" "	6.50	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	2.81	"	3.00
GRAIN—Wheat, Western,	" bushel.	.95	"	1.27
" Red and Mixed,	" "	.80	"	1.15
Rye,	" "	.61	"	.62
Corn, Northern,	" "	.58	"	.63
" Southern,	" "	.55	"	.61
Barley,	" "	.64	"	.67
Oats,	" "	.38	"	.45
GUANO, Peruvian,	2,000 lbs.	45.00	"	50.00
Patagonian,	" do.	30.00	"	35.00
HAY, in Bales,	" 100 lbs.	.56	"	.63
HEMP, Russia, Clean,	" ton.	195.00	"	200.00
American, Water-rotted,	" "	100.00	"	200.00
Dew-rotted,	" "	140.00	"	175.00
HIDES, Dry Southern,	" "	.08	"	.09
HOPS,	" lb.	.06	"	.18
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	4.45	"	4.50
Pipes for Pumps, &c.,	" lb.	.05	"	.07
MEAL, Corn,	" bbl.	2.87	"	3.38
" Corn,	" hhd.	14.00	"	14.50
MOLASSES, New-Orleans,	" gallon.	.25	"	.30
MUSTARD, American,	" lb.	.16	"	.30
NAVAL STORES—Tar,	" bbl.	1.62	"	1.88
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.00	"	1.20
Turpentine,	" "	2.44	"	2.75
Spirits of Turpentine,	" gallon.	.32	"	.34
OIL, Linseed, American,	" "	.80	"	.85
Castor,	" "	1.50	"	1.80
Lard,	" "	.60	"	.70
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	.75	"	1.25
Black-Eyed,	" 2	1.37	"	1.50
PLASTER OF PARIS,	" ton.	2.00	"	2.75
Ground, in barrels of 300 lbs.	" "	1.12	"	1.25
PROVISIONS—Beef, Mess.,	" bbl.	8.50	"	11.00
" Prime,	" "	6.00	"	8.00
" Smoked,	" "	.04	"	.12
" Rounds, in Pickle,	" "	.04	"	.06
Pork, Mess.,	" bbl.	10.00	"	12.00
" Prime,	" "	6.50	"	10.00
Lard,	" lb.	.06	"	.07
Bacon Sides, Smoked,	" "	.03	"	.04
" in Pickle,	" "	.03	"	.04
Hams, Smoked,	" "	.05	"	.09
" Pickled,	" "	.04	"	.07
Shoulders, Smoked,	" "	.04	"	.06
" Pickled,	" "	.03	"	.05
RICE,	" 100 lbs.	2.25	"	3.62
SALT,	" sack.	.90	"	1.43
" Common,	" bushel.	.20	"	.35
SEEDS—Clover,	" lb.	.06	"	.07
Timothy,	" bushel.	2.75	"	3.50
Flax, Clean,	" "	1.55	"	1.50
" Rough,	" "	1.50	"	1.55
SODA, Ash, (80 per cent. soda),	" lb.	.03	"	—
Sulphate Soda, Ground,	" "	.01	"	—
SUGAR, New-Orleans,	" "	.04	"	.06
SUMACH, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	.07	"	.08
TOBACCO,	" "	.03	"	.10
WHISKEY, American,	" gallon.	.27	"	.30
WOOL, Saxony,	" lb.	.40	"	.60
Merino,	" "	.35	"	.40
Grade Merino,	" "	.30	"	.35
Common,	" "	.20	"	.30

NEW-YORK CATTLE MARKET.

At Market—1,500 Beeves, (500 southern, the remainder from this state), 50 Cows and Calves, and 4,500 Sheep and Lambs.

Beef Cattle.—Prices continue firm, but about the same as last week; sales of good retailing qualities are made from 6 @ 8 cts. The market closes dull, with near 300 head in the yards left over unsold. The actual number of beef cattle sold at the Washington Drove Yard, during the year 1849, is ascertained to have been 71,183, or an average of 1,300 per week.

Cows and Calves.—The supplies were to an ordinary extent, with a fair demand. Sales at from \$20 @ \$42.50. All sold.

Sheep and Lambs.—Market active. Sales of Sheep at prices ranging from \$1.75 @ \$5.50, as in quality; Lambs from \$1.50 @ \$3.25. 200 left over.

REMARKS.—A slight advance in Cotton, Flour, Hay, and Seeds, since our last.

The weather.—Notwithstanding prophecies to the contrary, with the exception of a few days in December, the weather, thus far, has been rather mild than otherwise, for winter.

TO CORRESPONDENTS.—Communications have been received from N. Longworth, R. F., L. Durand, J. B. D., T. B. Miner, C. S. W., and H. M. Baker.

ACKNOWLEDGMENTS.—From Mr. John Wiley, late of the firm of Wiley and Putnam, A Treatise on the Production of Early Swarms of Bees by Artificial means, by Edward Scudmore, M.D., of Canterbury, England; From Messrs. J. P. Jewett & Co., of Boston, The American Fowl Breeder; Address delivered before the Norfolk Agricultural Society, at Dedham, Mass., in September, 1849, by Hon. M. P. Wilder; Address delivered before the New-Haven-County Horticultural Society, in September, 1849, by S. B. Parsons; Address delivered before the Philadelphia Society for Promoting Agriculture, in October, 1849, by Hon. J. R. Ingersoll; Address delivered before the Kalamazoo-County Agricultural Society, in October, 1849, by Joseph R. Williams; Address delivered before the Ontario-County Agricultural Society, in October, 1849, by Thomas D. Burrall, Esq.

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feb

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SHORTHORN BULLS.—For sale, two Shorthorn Bulls, one year old in April next. Both of them are descended from the bull Yorkshiresman, bred by the late Thomas Bates, of England. One of the bulls is red, the other red with a little white. All letters, *post paid*, will be attended to.

J. M. SHERWOOD,

Auburn, N. Y., January 11th, 1850.

feb 2*

BAGLEY'S GOLD PENS.—The Subscribers would very respectfully call the attention of dealers in their wares, that they have on hand a superior article of "Bagley's Improved Gold Pens," with their new style of patent holders, together with all styles of Gold and Silver Pen and Pencil Cases, of beautiful patterns, suitable for the holidays, at their warehouse, (old stand,) 129 Broadway.

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sep 1yr*

A VALUABLE FARM AT AUCTION.—The place on which I reside, (if not before sold), will be disposed of to the highest bidder, at 10 o'clock A. M., on the 7th of March next, on the premises, on Raritan Bay, South-Amboy Township, Middlesex county, N. J., together with all the Stock, Farming implements of the best sort, and the Household Furniture, substantial and ornamental.

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JOHN TRAVERS, on the premises, or REID & CRAIG, at Middletown Point, N. J. jan 4t

MINER'S PATENT EQUILATERAL BEE-HIVE.—This highly valuable hive may be had for \$5, with a right to make the same, of Messrs. A. B. Allen & Co., 191 Water st., N. Y., who are the sole agents. In proof of the great merit of this hive, I would state that I had a swarm of bees placed in one of the above hives about the first of last July, and some forty pounds of honey were stored in the supers, while thirteen other hives adjoining did not produce that quantity in the aggregate! Rights in pamphlet form, with full engravings of all its parts, and ample directions to make said hives and manage bees therein, will be sold for \$2 on addressing the undersigned, by mail, at "Clinton, Oneida county, N. Y." Moneys sent at my risk, and the safe delivery of rights guaranteed. Agents wanted to make and sell hives and rights in any section of the country.—Terms liberal, address as above.

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The *Synopsis* and *Walker's Key* to the classical pronunciation of Greek, Latin, and Scriptural proper names have been revised with much care, and greatly improved.

A *Vocabulary*, giving the pronunciation of modern geographical names has been added to this edition. feb 1t* HARPER & BROTHERS, 82 Cliff st., N. Y.

COOKING RANGES AND STOVES. Parlor Grates, &c., furnished at order at the following rates:—*Newly-Improved Patent Cooking Ranges*, at \$30, \$35, \$40, and \$48 each. Utensils and fixtures extra, varying from \$15 to \$100 each range. *Cooking Stoves*, at \$16, \$20, \$24, \$18, \$23, \$26, and \$30 each, including utensils. *Parlor and Cottage Stoves*, at \$5, \$6, \$7, \$8, \$10, \$12, and \$15 each, adapted for burning wood or coal. D. J. BROWN.

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500 do do do Clover Seed,	do
100 do do do Millet Seed,	do
100 do do do Buckwheat Seed.	do

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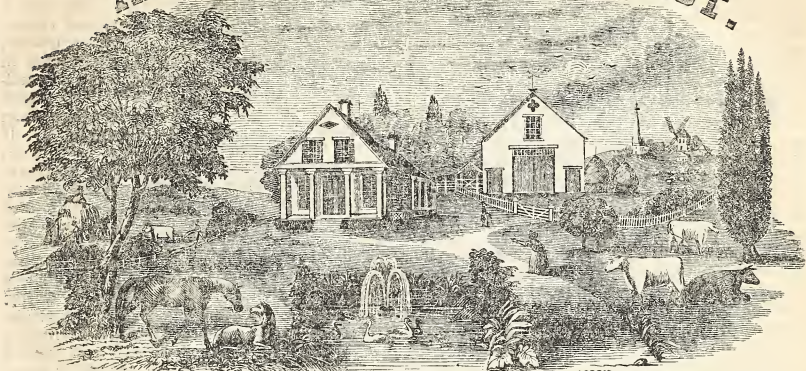
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AMERICAN AGRICULTURIST.



Agriculture is, by men's feeling, the most useful, and the most noble employment of man.—WASHINGTON.

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NAKED FALLOW AND NAKED SOILS TEND TO STERILITY.

THERE is no doubt of the truth of this proposition. Any observing man who has travelled far and observed carefully what was before him, cannot have failed to note this result. Occasionally old fields, or commons, at the north, and whole plantations at the south, illustrate the assertion; while in ancient kingdoms, once world-wide renowned for fertility, as Palestine, large portions of Syria, Greece, Italy, and Spain, sterility now reigns supreme, where once the golden harvests waved in the richest profusion, and lowing herds and bleating flocks fattened on the luxuriant meadows and grassy hill sides. A few years of bad cultivation, followed by abandonment of the naked surface to the elements, have wasted the remnant of fertility left by the last thrifless occupant. A little consideration will show the inevitable tendency of such management to similar results in our own country.

A soil judiciously cultivated, where all that is produced upon it is fed off upon the field; or the refuse vegetation, as of stalks and roots, after its consumption by man or animals—the offal of the finer portions, as of grain, the leguminous plants or farinaceous roots—where these are carefully husbanded and returned to the soil, with the addition comparatively of a trifle in some of the essential mineral ingredients, as of plaster, lime, or salt, when they are deficient, the soil will be constantly improving. The reason of this is perfectly obvious. Vegetation draws no inconsiderable share of its carbon, which is between 40 and 50 per cent. of its entire weight, from the carbonic acid of the atmosphere. This is stored up in the roots, stalks, and leaves; and if carried back to the soil and incorporated with it, tends greatly to augmenting its fertility. In fruits fed to man or animals, much of this carbon is converted into carbonic acid and given again to the atmosphere by their respiration. Yet much of the carbon, and nearly all the salts, or mineral ingredients of the food, are retained in their feces, and if these are applied to the field, they will be found to have improved rather than deteriorated the soil from which they had been taken.

It is the loss by the partial fermentation and decomposition of plants, grains, and grasses, in the curing and preparation for food, in addition to their large waste from respiration in the animal system, which renders the process of improvement by manuring with green crops, (in which the whole product, as of oats, buckwheat, rye, clover, or cow peas, grown upon a field, is turned under by the plow,) so much more speedy and efficient, than the slower, yet not less certain mode of restoring all the offal and manure derived from the crop to the soil where it has been grown. Even a small quantity of such mineral manures, as lime, plaster, salt, or bonedust, has a tendency to absorb carbonic acid and ammonia; and by a small outlay, the fertility of the soil may be greatly increased, and the loss of these fertilisers by respiration and perspiration, when they first pass through the animal system, before

their residuum is given back to the soil, may be fully compensated.

One exception is to be admitted of the tendency of uncultivated fields to sterility. This is seen where they sustain a natural growth of vegetation, such as is exhibited in woodlands, prairies, and the spontaneous growth of other plants in tolerable profusion; for here the work of a self-sustaining fertility is constantly in operation. In all other cases, the rule holds true, and from this perfectly plain and obvious principle. If the soil be upturned and exposed to the sun, air, and rains, unsheltered by the kindly protection of its natural covering of vegetation, the oxygen from the air and moisture it imbibes, stimulated by the sun's rays, acts upon the carbon of the soil and converts it into carbonic acid; and this, finding no rootlets of plants to absorb and condense it, speedily escapes to the surface, where it mingles with the atmosphere, and is wafted thousands of miles from the spot of its origin. As they become soluble, the earthy salts, finding no plants to appropriate them, are soon washed out of their native bed by the drenching rains, and pass onward through rills, brooks, and rivers, to the mighty ocean, hopelessly beyond reach. Calcareous and aluminous soils are partial, and only partial exceptions to this general result. They absorb a certain amount of these fertilising salts and gases, while all beyond pass off into irreclaimable waste.

The relevancy of these principles is shown, by the devastations of numerous and once fertile cotton plantations in our southern states. It was not the quantity of carbon and salts, (ash,) abstracted in the comparatively small proportion of lint, (pure cotton,) taken from the fields, although this, in a long series of years, would be considerable; but it is owing to the necessarily cleanly cultivation required by this crop, and the *nearly naked fallows* thereby exposed to the drenching rains and an almost tropical sun. No weeds nor grass must be suffered to grow where a good crop is to be secured; and the narrow strips, (rows,) of vegetable growth, which alone are suffered to usurp the field, except for the brief time when the crop is in full foliage, gives every facility for the escape of fertilising matter through the action of the elements. Added to this, is the too frequent waste of the stalks, leaves, and seeds; the two former being often suffered to decay on the surface and gradually disappear from rains; and the latter succeeds at a later period, the other portions of the plant; or if fed to cattle or swine, their manure is dropped in the roads or by the side of gullies, where it soon follows the same channels.

A similar effect is produced from the constant cultivation of grain, tobacco, flax, and most other plants; and from their abstracting a greater amount of the fertilising elements to give them maturity, than are taken out of the soil by cotton, this result is sooner reached.

What is the remedy for this? is the very pertinent inquiry. There are but three, and one or more of these must be applied, or sterility is inevitable. The fields must have a frequent rotation of grass, clover, or some of the forage

plants, fed off, where grown, by animals, and their droppings left to fertilise the surface; they must be restored by green crops plowed in, as of clover, cow pea, or other crops; or they must be manured from the cattle yard, or its equivalent in mineral and vegetable manures. Each of these modes has been often treated of in our preceding volumes, and they will continue to be noticed in all their varying phases and merits in the succeeding ones.

NEW SPECIES OF SILKWORM.

AMERICA may be destined to give the world another staple, in addition to the potato, Indian corn, and tobacco, in a new species of silkworm, to which Mr. Walsh calls the attention of our citizens through the Journal of Commerce.

He says Mr. Blanchard furnished an extract from a paper on acclimatising various species of bombyx, which yield silk. *Bombyx* is a genus of nocturnal lepidoptera, the caterpillar of which is the silkworm. Blanchard cites various species found abroad, which may be acclimatised in France, as now proved by successful experiment. Among them are some brought from India; some from New Holland; some from China; some from South America; but the species on which he builds most hope belongs to North America, and is particularly met with near New Orleans. He quotes the *Bombyx laocoon*, *Attacus luna*, *Attacus cecropia*, *Attacus polyphemus*, &c. He regards as beyond all doubt, the possibility and utility of raising them in France, which can be done as easily, and even more so, than with the ordinary silkworm. The quantity of silk produced in France, is very far below the consumption. It is shown how the acclimatising of the American species would infallibly prove a new source of wealth to the country. Algeria, too, might be signally benefited. It may be well that Louisiana should look to her indigenous bombyx, and become acquainted with the methods of profiting by those employed in France.

POULTRY RAISING.—No. 1.

HAVING had some experience in breeding poultry, I will state a few facts that have come under my observation, presuming, however, that they will be of little interest in comparison to the writings of the able pens that have preceded me on this subject. There appears to be felt a considerable interest, in regard to the numerous breeds of foreign fowls, that now begin to be common among us; and the only important question is, are they any better than our common breeds?

Allow me to make a few remarks on the *Poland Fowl*, to begin with. Some few years ago, I purchased a pair of this breed, for which I paid four dollars. They were of a shining jet black, with white tufts, or topknots, on their heads, of great beauty. I was told that they were great layers, and that they never sat for incubation, or hatching their young. If these facts were true, I considered a great difficulty overcome to the successful keeping of fowls as a matter of profit. In brief, I found that my

hens of this breed, after a fair and full trial, did not lay any more eggs during the year, in the aggregate, than our ordinary fowls, that sit once in a season, and rear but one brood of chickens! Three, and sometimes four eggs a week, per hen, were the average number laid by them. The chicks were raised under other hens.

In regard to *sitting*, it is true that they do not sit; but it is rather a disadvantage, since they will frequently make a mock attempt at it, and cover their eggs a few days, a part of the time, render them addle, and leave them. They are, also, diminutive in size. Their flesh is of a poor flavor, and it is very hard fattening them; and, in fine, as a market fowl, or for the table, they do not begin to compare with some of our domestic breeds, that can be purchased for fifty cents or less per pair, the country over. They are greatly subject to diseases; so much so, indeed, that I think I may safely say, that a hundred of them would employ constantly one person skilled in the "Materia Medica" of dung-hill tribes. They are very tender, fit for a southern latitude only, one would suppose, from the effect of a severe winter upon them.

I found that, in order to breed these fowls in pure blood, they must have a yard by themselves, and not even be allowed to see other fowls! It is, indeed, a fact, that the mere act of witnessing other fowls in adjoining enclosures, will destroy the purity of the breed. [This is new to us. Can it be explained?—Eps.]

I crossed the breed with success. I placed a Poland cock with a half dozen hens of the *Dominica*, or blue-spotted breed. This amalgamation produced a beautiful black hen, with a close coat of feathers, and a fine, black tuft of feathers upon the head. The color was invariably a perfect jet black in hens, while the cocks were also black, but with a white tuft upon the head, less full, and more upright than the pure breed. The hens were fine, constant layers, seldom wishing to sit. Their flesh was well-flavored, and the degree of fattening that they attained, when well fed on corn, oats, &c., was astonishing. Indeed, on one occasion, I had to put them on a short allowance, even in the season of incubation, when fowls are generally poor, fearing that I should lose them through extreme fatness, or obesity.

If one desires a fowl for its singularity and beauty, it is well enough to buy *Polands*; but he who purchases in the expectation of finding them a more profitable fowl than our common breeds, will find himself sadly mistaken. It is probably true, that on some occasions there have been great layers of this breed; and the same of any other kind. If a gentleman should chance to get a large number of eggs from any single, or specific number of fowls, on some particular occasion, it is no criterion of what every man may do. They have their years of prolific abundance, and they have their seasons of sterility. Food and good management in the rearing of fowls, have their beneficial results, but the same person seldom succeeds alike during a series of years.

T. B. MINER.

Clinton, Oneida Co., N. Y.

AGRICULTURAL EDUCATION.—No. 2.

THERE is no necessity for a nation of learned men, to make a great people. The very founders of this republic were, almost without exception, men of a very plain education; not one of them was what is generally called a scholar. Yet, where are we to look, throughout the world, for examples of purer patriotism, of more integrity, or of a more thorough, rigid, and a higher sense of duty? Each one had gone through a course of good, old English morality, with a large number of them made sterner and more serious by the strictness of puritanism; but to all giving that unwavering resolution, that determination to surmount every difficulty, at whatever hazard or cost, which can only go with the consciousness of being right, and only belong to high principle and lofty virtue. The great crisis in which they were engaged, could not have been carried through by men of loose morals. The whole movement depended on the confidence the people of the country felt in the disinterested integrity of these, their leaders; and if, for a single moment, this had been shaken, the whole object would have been blasted, and the founding of this republic been indefinitely thrown back. These men were as remarkable for their moral qualities, if not more so, as their intellectual ones. Though not meanly educated, they had, with the exception of a few wealthy men of the south, by no means received a finished education. Yet, could they have had a better? The truth of Shakspeare's thought, that "hardness is of hardiness, the mother," has never been better exemplified, than in these men. Inured to toil, both by sea and land, with habits of industry, and the noblest of all qualifications for usefulness, the habit of self-dependence, there could not have been found, and there never has existed, men better fitted for the period and its eventful exigencies, than these patriots of the American Revolution.

The inference drawn, and which I wish to be drawn from these remarks, is—not that learning of the highest order unfits a man for his duties as a citizen, or that it disqualifies him for high action or conduct, in critical and dangerous circumstances; or that it enervates the mind; or that it prepares a man for the battle of brains alone. It would be unwise and absurd, to encourage even a remote idea, that the greatest of Heaven's gifts—fine faculties, and these finely directed—were to disable a man from the ablest efforts of patriotism. It is as much the duty of a citizen, and one who loves his country, to devote himself to the development of the mysteries of nature and of thought, as to those affairs that bring him into a more direct sympathy with his fellow men. There is as much lofty patriotism in the exertions of genius, in the silent and retired labors of the scholar, in the accumulations of deep literary research, as in the more open and more imposing efforts of the tribune or the forum; or any other department of human skill and labor. The tendency of these thoughts, is, however, to impress the value of moral training; and that, in the definition of education, we should never lose sight of. It is clear that, after

all, it is not intellect that governs the world. There is something more—something beyond—and something higher than this to appeal to, in the bosom of every man. It is the means and disposition to be useful; the moral excellence—and not the moral perversity; the claim and the appeal a man makes through his essential goodness, what gives value to the citizen, and exceeds and surpasses, and outlasts, too, all the energies of the most powerful mind. I would, therefore, in discussing and defining the subject of education, look, not so much to the amount of mathematics, or of classical attainment, or any other intellectual accomplishment, as to the great end of showing to the world a body of honorable, high-minded youth. Both mind and heart should be cultivated; but it is of more importance, I believe, to fill and establish in the latter, high principles, than to give to the other superior refinement.

But in speaking of this matter, it must be always borne in mind, that there are great difficulties to contend with. The education to which I allude, is that which is fitted for the majority—the immense majority of the people of the country, and of all countries. This body, necessarily, as well as naturally, must lead a life of physical toil. To this they must be early inured, or they will by no means, at least, in the present condition of the country, be prepared for the kind of life—destiny, perhaps I should say—their good fortune has allotted them. Here we have an obstacle legislation cannot overcome. To give a sufficient and efficient education to those who have no time to receive it, is one of the most serious difficulties the benevolent citizen and the sagacious law maker has to encounter. A laboring man, of any class, cannot afford to look upon his child as a mere intellectual being. He knows there are before him days of hard toil, and exposure, to which endurance he must be bred; and as carefully and rigidly bred, as he would be for the pulpit or the bar. He has not, it is true, the same visions of expenditure before him, as the wealthy citizen in a large town. The dancing master, music master, French, Italian, Spanish, and German, are not among the spectral appearances, stalking before him in his dreams, nor the rapidly-approaching necessity of a profession, with all its hazards, with which his child is to master his fortunes in the world. But still, the anxious father will, if he has any feeling, ask himself how he is to procure a good education for his son. The course of thought, as it passes through his mind, will be—"Can I deprive myself of the labor of this boy? Can I afford to let him pass several years at school? If I do, how will he be able to perform the work and go through all the toil and hardship, absolutely necessary in his occupation? To be a good plowman, is as much a part of his business, as to know the rule of three; to understand the management of horses and oxen, as to study geography; to know how to take care of the farm, as to read Latin." After going over this, the decision will probably be, to throw aside the learning, and take to hard work. Such is the decision, and such will be the decision, for

some time to come, of all, or nearly all, of the farmers of this country. What, then, is to be done to give them the advantages of such an education as is due to their importance and power, as citizens? Can anything more be done than gradually enlarge the course of instruction already within their reach? and, as the wealth of the country increases, to induce, by sufficient salaries, a better-educated class of instructors to take charge of the schools of the country? These seem the two most obvious ends at which to aim; and there is very little doubt that they will, ere many years, be attained.

A. L. ELWYN.

Philadelphia, January, 1850.

TABLE FOR PLANTING CORN, TREES, ETC.

THE following table may be useful for readily pointing out the number of hills of potatoes and corn, or of plants and trees &c., required for a statute acre of land, when planted at any of the under-mentioned distances apart:—

Distances apart.		No. of plants.
1 ft. by 1 ft.		43,560
1½ " 1½ "		19,360
2 " 1 "		21,780
2 " 2 "		10,890
2½ " 2½ "		6,969
3 " 1 "		14,520
3 " 2 "		7,260
3 " 3 "		4,840
3½ " 3½ "		3,555
4 " 1 "		10,890
4 " 2 "		5,445
4 " 3 "		3,630
4 " 4 "		2,722
4½ " 4½ "		2,151
5 " 1 "		8,712
5 " 2 "		4,356
5 " 3 "		2,904
5 " 4 "		2,178
5 " 5 "		1,742
5½ " 5½ "		1,417
6 " 6 "		1,210
6½ " 6½ "		1,031
7 " 7 "		888
8 " 8 "		680
9 " 9 "		537
10 " 10 "		435
11 " 11 "		360
12 " 12 "		302
13 " 13 "		257
14 " 14 "		222
15 " 15 "		193
16 " 16 "		170
17 " 17 "		150
18 " 18 "		134
19 " 19 "		120
20 " 20 "		108
25 " 25 "		69
30 " 30 "		48
40 " 40 "		27
50 " 50 "		17
60 " 60 "		12
66 " 66 "		10

GRAND VEGETABLE BANQUET TO THE POTATO ON HIS LATE RECOVERY.

THAT highly respected vegetable, the Potato, being now, it is hoped, thoroughly re-established in health, it was determined by a few leading members of the Vegetable Kingdom to offer a banquet to the worthy and convalescent root on his happy recovery. The arrangements for the dinner were on a scale of great liberality, and the guests included all the principal vegetables. The invitations had been carried out by an efficient corps of scarlet runners, and the Onion occupied the chair. He was supported on his right by the head of the Asparagus family, while Salad occupied a bowl at the other end of the table, and was dressed in his usual manner. The Potato, though just out of his bed, was looking remarkably well, and wore his jacket, there being nothing to mark his recent illness, except, perhaps, a little apparent blackness round one of his eyes. After the cloth had been removed,

The Onion got up to propose as a toast, "The Potato," their much respected guest. (Immense cheering.) He, the Onion, had known the Potato from infancy; and though they had not always been associated in life, they had frequently met at the same table. They had sometimes braved together the same broils, and had found themselves often together in such a stew, (he alluded to the Irish stew,) as had brought them, for the time being, into an alliance of the very closest kind. He, the Onion, was delighted to see the Potato once more restored to his place in society; for he, the Onion, could say, without flattery, that society had endeavored to supply the place of the Potato in vain. (hear, hear.) They had heard of Rice having been suggested to take the place of his honorable friend, but the suggestion was really ridiculous. *Risum teneatis, amici?* [Friends, can you forbear laughing?] was all that he, the Onion, had to say to that. (Loud laughter, in which all but the Melon joined.) He, the Onion, would not detain them any longer, but would conclude by proposing health, long life, and prosperity to the Potato.

The toast was received with enthusiasm by all but the Cucumber, whose coolness seemed to excite much disgust amongst his brother vegetables. The Onion had, in fact, affected many of those present to tears, and the Celery, who sat next to the Horseradish, hung down his head in an agony of sensibility. When the cheering had partially subsided, the Potato rose, but that was only a signal for renewed enthusiasm, and it was some minutes before silence was restored. At length the Potato proceeded nearly as follows:—

"Friends and fellow vegetables. It is with difficulty I express the feeling with which I have come here to-day. Having suffered for the last three or four years with a grievous disease, which seemed to threaten me with total dissolution, it is with intense satisfaction I find myself once more among you in the vigor of health. (Cheers.) I should be indeed insensible to kindness, were I to forget the anxious inquiries that have been made as to the state of my health, by those who have held me in esteem, and sometimes in a

steam. (A laugh, in which all but the Melon joined.) I cannot boast of a long line of ancestors. I did not, like some of you, come in with the conqueror, but I came in the train of civilisation, amidst the memorable luggage of Sir Walter Raleigh, in company with my Right Honorable friend the Tobacco, who is not now present, but who often helps the philosopher to take a bird's eye view of some of the finest subjects for reflection. (Immense cheering, and a nod of assent from the Turnip Top.) Though I may be a foreigner, I may justly say, that I have taken root in the soil, and though I may not have the grace of the Cucumber, who seems to have come here in no enviable frame. (Loud cheering.) I believe I have done as much good as any living vegetable; for, though almost always at the rich man's table, I am seldom absent from the poor man's humble board." (Tremendous applause.) "But," continued the Potato, "let me not get flowery, or mealy-mouthed, for there is something objectionable in each extreme. I have undergone many vicissitudes in the course of my existence. I have been served up, aye, and served out, (a smile,) in all sorts of ways. I have been roasted by some; I have been basted by others; and I have had my jacket rudely torn off my back by many who knew not the treatment I deserved. But this meeting, my friends, repays me for all. Excuse me if my eyes are watery. (Sensation.) I am not very thin skinned; but I feel deeply penetrated by your kindness this day."

The Potato resumed his seat amid the most tumultuous cheering, which lasted for a considerable time.—*Punch*.

A PERFECT STORE HOUSE.

I CONSIDER agricultural periodicals a perfect store house of information for the mind. Every farmer ought to possess one. His mind then will be filled with invaluable information as well as his barns with valuable products. Thus he can keep up with the times, and save many a dollar which he now loses from ignorance. Your paper is filled with articles detailing the practice of farmers themselves; hence its great value to them.

I herewith send you a few ears of my "King-Phillip corn." I think it exceeds any other kind I have yet seen for this climate. The grain is large, the cob small, and it produces largely. I can raise 100 bushels of this kind easier than 60 of any other kind I know of. It is the best kind to sow for fodder of great growth. D. A. B.

Williamstown, Mass., Jan. 17th, 1850.

The corn of our correspondent has come to hand, and we shall distribute it among our friends for trial. If it proves suitable for this climate, he shall hear from us again on the subject.

TRAINING CATTLE AND HORSES.—Working animals, when well trained, are capable of doing much more work, and doing it easier, than when imperfectly broken. Knowledge is power to

them, though in a different sense, and in a less degree, than with reasoning man. Yet, if they are taught *how* to draw, to back, and come round; when to lay out their strength, and when to husband it, they have the same advantage that a skillful woodman has in the use of his axe, the mower his scythe, the reaper his cradle, and the ditcher his spade.

First procure animals of a good breed, naturally intelligent, and of good general physical organisation; adapt their food to their constitution and work; train and manage them properly, and you will find your account in it, as you do in sending your children to school, or teaching them to handle their tools skillfully.

GARDEN SYRINGES.

THESE are very simple and economical implements, constructed on the principle of a force pump; and are well calculated for watering gardens or washing windows. They may also be used for expelling insects from shrubbery and plants, by means of an infusion of tobacco or sulphur water. They are of various sizes, throwing from a pint to a gallon at each stroke.



FIG. 27.



FIG. 28.

SCOURS.

ONE day last October, two of my cows eat too many apples, in consequence of which, the next morning, they were scarcely able to rise or walk about, and were suffering severely from a violent attack of the scours. The following evening, the disorder appeared to be unabated, and they continued to refuse food.

As I had previously cured many severe cases of the same disorder, when affecting sheep and lambs, by administering to them one or two doses of black pepper and scalded milk, I thought best to give the cows a dose of the same.

Accordingly, I thoroughly scalded one large teacupful of finely-ground black pepper in two quarts of skimmed milk, and gave the mixture to the two cows. In twenty-four hours, they were quite cured of the disorder; their appetite began to return, and with no further attention they soon began again to thrive.

Salem, Dec. 31st, 1849.

S. R. GRAY.

TO CURE DEEP CUTS IN A HORSE.

LAST fall, my horse, while grazing, put his neck under a scythe, which had been carelessly left hanging on a fence, and in endeavoring to disengage it, received two severe wounds, one of which was about three inches long, and super-

ficial, the other was cut through the upper part of the neck quite down to the spinous processes of the bones of the neck, and then extending downwards and forwards nearly eight inches, severing several large muscles. I saw the animal soon after, and had him brought up to dress his wounds.

At this time, although there had been much blood lost, there were no bleeding vessels. I proceeded to take several stitches, about two inches from each other, by which means I drew the edges together. I then put on some superficial dressings, and tied the horse with his head up, by means of a short halter. In the evening, on visiting the horse, I found him very much exhausted from the loss of blood. The wound was completely filled with a large clot, and there was a small stream of florid, arterial blood flowing from it. I immediately cut away the stitches and cleansed the wound, and soon found the artery near the spine. I endeavored to take it up and tie it, but it was too deeply situated; so, with a small, artery forceps, I seized the vessel, and pinched and twisted it until it no longer bled. I then stitched the wound again, shaved the hair off, and drew the edges together with strips of adhesive plaster. After a few days, the stitches gave way, and the motion of the horse's head and neck drew the lips of the wound somewhat apart; but the healing process went on very favorably. The parts were washed, and raw cotton, dipped in powdered rosin, was laid in the wound, and then the whole was dusted over with rye flour. In the latter part of the treatment, granulations, or proud flesh, were burned off with lunar caustic whenever they were seen to arise above the surrounding skin. The horse is now perfectly recovered. F.

NEW MODE OF RAISING WHEAT.—An experiment has been tried in Iowa, and recorded in the *Prairie Farmer*, by J. A. Rosseau, where two bushels of wheat and one of oats were mixed and sown together in the fall, on one acre. The oats shot up rapidly, and were, of course, cut down by the frost. They however furnished a warm covering for the earth, and when the snow fell among the thick stalks and leaves, they kept it from blowing away. This covering prevented the winter-killing of the wheat, and the oats yielded a rich top-dressing for the crop the following spring. The result was—an abundant crop, while land precisely similar along side of it, and treated in the same manner, with the exception of omitting the oats, was utterly worthless. Will some of our readers try this experiment the coming season, and give us an account of the results?

DISEASE IN SWINE.—A breeding sow was turned off to fatten. A few days after, she was noticed to stand with her head down, and to be breathing with great distress, but yet, without any perceptible sound. This continued for a day or two, when, supposing she was laboring under an attack of inflammation of the lungs, I cut off her tail, from which she bled freely. This was followed by immediate relief, and in a day or two she was quite well. F.

PELE'S MERVEILLE STRAWBERRY.

Will our foreign botanists never learn that we have three distinct kinds of strawberry plants, and that cultivation never changes their character? *Staminate*, *hermaphrodite*, and *pistilate*. The first, perfect in male organs, but defective in female organs. These are always barren. Hermaphrodite, always perfect in male, and partially perfect in female. A portion of the blossoms have both organs perfect, and bear perfect fruit. A portion, partially perfect in female organs only, bearing berries defectively formed; and a portion of the blossoms wholly defective in female organs, and bear no fruit. The productiveness of this class varies with the soil, climate, and season; but will never average one third of a crop of perfect fruit.

The pistilates are defective in male organs, and separate from all others, will never bear a perfect fruit. In the vicinity of staminate or hermaphrodites, unless so closely crowded together that they cannot be impregnated, not one blossom will fail to produce a perfect fruit, unless killed by a late frost. I presume one staminate will impregnate twenty pistilates. The latter is the only kind worthy of cultivation for a crop, and will bear four times the quantity the hermaphrodites; and the average of the fruit is much larger.

In raising from seed, an occasional plant is produced with most of the blossoms perfect, or nearly perfect, in both organs, and a portion entirely destitute of male organs, but perfect in the female; and these blossoms, of course, bear perfect fruit. The Eberlin seedling, of Mr. Eberlin of this state, and the English Duke of Kent, are the only plants I have met of this character, except one, among some 2,000 seedlings that I raised a few years since. Even some of our best horticulturists, who do not give particular attention to the plant, suppose that pistilates, in running, change their sexual character. This is never true. Staminate, having no fruit to bear, make ten new plants where the pistilates often makes but one, especially in the season of fruiting. A chance staminate seedling may come up, and drive all the pistilates out of the bed, before it is observed.

In setting out new beds, I should plant four beds of pistilates, and then a single row of hermaphrodites, then eight beds of pistilates, and continue this rule. I leave staminate sufficiently near for impregnation by wind and insects, if the pistilates be not crowded too close together. A late writer speaks of an abundant crop, where his plants were in a compact mass. Common sense will contradict this. Two thirds of the blossoms could not be reached by insects. Plants should be from 6 to 9 inches from each other, depending on the richness of the soil, and growth of the plant. Pele's Merveille will, I feel confident, be found to be hermaphrodite, and unworthy of cultivation, unless it be as a mere impregnator. The writer appears ignorant of the sexual character of the plant, and is silent on the subject. No better evidence is wanted

of the sexual character of this plant, than its being named in connection with the famous English seedling, *Wilmot superb*, which is not worthy of cultivation, even as an impregnater.

N. LONGWORTH.

Cincinnati, Dec. 29th, 1849.

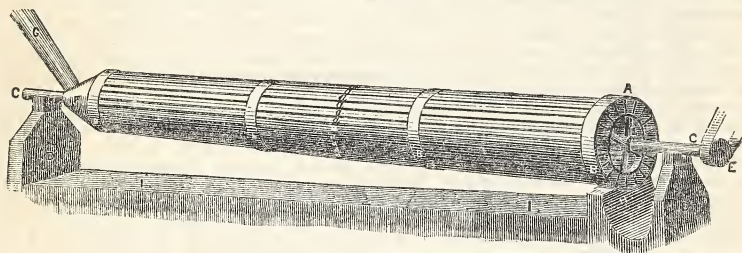
COWS, NOT GIVING DOWN THEIR MILK.

I HAVE often heard persons speak of cows holding up their milk, but I always supposed it was imaginary; for, I did not believe that the secretion, or flow of milk, at all depended on the will, although I knew that impressions on the mind would effect the secretion of milk in human beings and animals.

Last summer, I purchased a cow that I took a fancy to, and wishing to be particular with her, I commenced milking for the first time. In this operation, for I am now quite a milker, often milking my cows myself, I have discovered that my suppositions in relation to cows holding up their milk, were erroneous. This afternoon, I was attempting to milk a cow that had been slopped when she was milked. Her teats were

finned to these wheels by bands of hoop iron, *b*. The feeding end is made of sheet iron, *f*, in a proper form to receive two spouts, one for feeding, the other for letting off the steam from the grain. This feeding end, *f*, is elevated one inch for each foot in length of the cylinder, and the grain after passing through the cylinder, falls into the hopper, *h*. The cylinder is placed within a brick arch, of which *i, i*, is the base, of sufficient size to contain a common box stove, and pipe twice the length of the kiln; the stove being at the feeding end and directly under the cylinder. The motive power is applied to the cylinder by a band from the machinery of the mill, passing over the pulley, *e*. The cylinder should have about 25 revolutions to the minute; and with that velocity the grain will remain in the tubes about six minutes. The time can be regulated in two ways, by the velocity of the cylinder, and by the pitch, which should be greater or less, according to the dampness of the grain.

A cylinder of the dimensions above described, will dry from 15 to 20 bushels per hour; the quantity depending upon the dampness above



TOWER'S IMPROVED GRAIN DRYER.—FIG. 29.

like leather. I could not obtain any milk, until a feed of cabbages were given her, when she gave her mess of milk. That cow previously spoken of, could not be milked unless the calf was nursing at the same time. I should like very much to have this subject explained. Can not some of your physiological correspondents give the scientific reasons for it? F.

TOWER'S IMPROVED GRAIN DRYER.

THE improvement of this machine consists in passing the grain in a particular manner through a revolving and heated cylinder of separate square apartments or tubes, *a, a, a*, as seen in the engraving, which are made of sheet iron, 14 feet long. The frame work consists of an iron shaft, *c, c*, 2 inches in diameter, resting on its bearings, *d, d*, forming the axle of, and passing through, four cast-iron wheels placed thereon at equal distances from each other, 20 inches in diameter, having projections on their outer edges half an inch thick, and 2 inches from each other; and between which projections the sheet-iron tubes are placed, and are thus kept half an inch apart, to give the heated air free circulation. The tubes are con-

mentioned. The principle is such that the cylinder may be made of any size required, or several may be enclosed in one kiln. It is necessary in order to have the grain thoroughly and properly dried, that each kernel should come in contact with the heated sheet-iron tubes; and this is rendered practicable by the large amount of surface on the inside of each tube, to which the comparatively small quantity of grain, which is in it at any one time, is exposed.

The great advantage of the invention is, that the corn, (and any other grain combined in the same manner,) has a constant rotary motion and therefore is not burned on one side before it is dry on the other—thus, the corn comes out as bright and yellow as when it left the ear, and an article of meal is thus furnished for the market altogether sweeter, and consequently superior in value.

This machine has been in use two years for drying corn. One is at present in successful operation in New Brunswick, New Jersey. The total expense of this apparatus does not exceed \$100. They may be procured by application at the Agricultural Warehouse and Seed Store of A. B. Allen & Co., 189 and 191 Water street New York.

PUMPKINS FOR MILCH COWS.

We have often called the attention of our readers to the great value of pumpkins for milch cows and other stock. For the former, they are particularly valuable, as we have often proved from our own experience. When of the right kind and well ripened, they are a sweet, nutritious, and succulent vegetable, easy of digestion, and much relished by animals. We have found that a cow, giving *ten quarts* of milk per day when fed with hay, and pumpkins, both morning and evening, in addition, have suddenly fallen away to *five* when the pumpkins were withdrawn, though the full allowance of hay was continued. Their great merits for this purpose are everywhere acknowledged, when properly observed.

There is no vegetable more easily raised than the pumpkin. It requires a rich soil to produce abundantly; and what crop does not? It must also be light, porous, and dry. Pulverise the ground thoroughly; and by thoroughly, we mean, plow deeply, and with such a plow and such a plowman as will crumble the soil as it passes over, and after it has left the moldboard; then harrow, if there be any clods requiring this operation—though we have seen land so evenly and so well plowed, so effectually mellowed, that any immediate successive operation was entirely superfluous.

After preparing the land, and allowing it to be well warmed by the vernal sun, mark off the rows six feet apart each way, which, with a marker 12 feet wide, and containing three teeth, each six feet apart, is readily done by a horse and boy. Then, with the fingers only, stick with the small, or germinating end downwards, eight or a dozen seeds within a circle of a foot, or drop and cover with a hoe. This forms the hill. A single vigorous vine is sufficient for each hill; but as the seed may be saved with little trouble, and it is very subject to loss from the cut worm and other casualties, it is better to have an abundance of it, and the super-numerary young plants are easily destroyed by the hoe. The principal cultivation may be done with the plow or cultivator. The soil requires to be kept loose, and the weeds down. A light hoe, immediately about the vines, may be occasionally required to lighten the earth, as the young plants are too tender to bear rough usage from the teeth of the horse machines, or the overturned clods.

Some persons imagine, that, if the roots or hills of these or other vines are kept light and clear of weeds, it is sufficient, and that they may run indifferently over hard or barren earth, or a grassy sod. But this is a great mistake, and in two ways. First, the joints at each leaf, when in contact with moist, finely-pulverised, rich soil, will throw down roots, which, like the main ones, draw up nutriment for the support of the vine; and second, the vines and leaves themselves absorb largely through their pores, from the ascending moisture and gases, which are constantly given off by such soils. But for these auxiliaries, a pumpkin vine, stretching out its polytypic limbs for 20 or 30 feet in every direction, as they will sometimes do on a genial

soil, when not too crowded, would have to suck in water at the main root, as rapidly as a double action force pump, or a Croton pipe under a 50-head pressure, to supply the enormous evaporation of its broad leaves and leaky stems, in a sultry summer day.

Pumpkins are generally made a secondary crop in this country, and are stuck into the hills of corn or potatoes, after the first hoeing; and, under these circumstances, the yield is frequently very large. But we are satisfied, that planted as an exclusive crop, few will be found more advantageous for early feeding, than the good, old-fashioned, yellow, field pumpkin.

IRON RAILING, GRATING, ETC.

This is made entirely of wire and wrought iron. Among the numerous uses to which it is now applied we enumerate a few, as follows:—

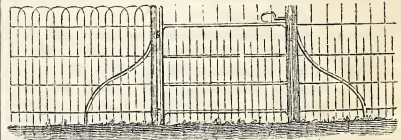


FIG. 30.

Enclosures for farms, public grounds, cemeteries, cottages, and gardens; window shutters and guards for private dwellings, lunatic asylums, prisons, &c.; columns and cornice work for cot-

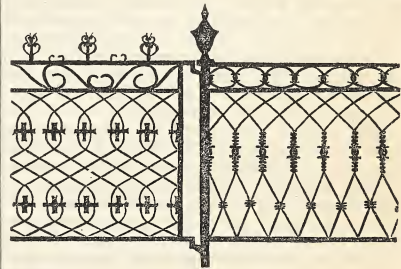


FIG. 31.

tages; tree boxes, a beautiful article; summer houses, arbors, arches, and verandahs; grating for sky lights (thief proof); guards for steamboats, vessels, &c., &c.

This article may be advantageously introduced into every department where wood and cast iron are now used for railing, grating, &c. It is far preferable to cast iron, being *woven* entirely of wrought iron; by which process, additional strength, durability, and beauty of design is given to the fabric, at about half the cost of the former.

The prices of the railing, exclusive of points, borders, or rosetts, vary from 35 cents to \$1.50 per running foot, according to size and finish; Gates, from \$3 to \$10 each; points or top orna-

ments, from 12½ to 25 cents per foot extra; borders, from 25 to 50 cents per foot extra; rosets, 25 to 50 cents per foot extra.

A specimen sheet, containing sixteen splendid designs, may be had gratis, on application at the warehouse of A. B. Allen & Co., 189 and 191 Water st., New York, or by letter *post paid*.

BUILDING AND BUILDING MATERIALS.

THE materials used for the construction of houses, are wood, brick, burnt and unburnt, iron, and stone. In the first place, I shall consider wood, that being in almost universal use throughout the country. The advantages claimed for it by its strong advocates, are, its comparative cheapness, beauty, facility of obtaining it, and the readiness with which it can be repaired. The disadvantages are, liability to decay, also to fire, subject to heat in summer, and cold in winter, its continued expense for a series of years, for repairing, painting, &c.

Here the questions naturally arise—Can the advantages claimed, be sustained? and do they more than counterbalance the disadvantages?

Let us weigh the matter, and then decide. First, its *cheapness*, to my mind, is just as "clear as mud;" for, it is my candid opinion, that most farmers, (those I mean who have their farms and buildings in decent condition,) spend as much in repairing these wooden structures, for a term of years, as would pay the interest on good stone ones. When a man sells his farm with wooden buildings upon it, such as are generally found in New England, it brings no higher price per acre, than if destitute of buildings altogether. Not so with those with stone buildings, which enhance the value at once, although they may not have cost more, in the aggregate, than the wooden ones. This shows conclusively, that the farmers themselves have no confidence in their cheapness nor in their excellence.

But while I thus dwell at length on the merits of wood, I must not forget it has also corresponding demerits, as its liability to take fire, for instance. This is a very serious objection in the country, as it rarely happens that wooden buildings there once on fire are ever extinguished, owing to the scarcity of fire engines, and the combustibility of the material; and if they escape fire, the liability to decay adds a bill of expense.

Another material, unburnt bricks, has lately been made use of at the west; and a few buildings have been erected in New York. Still, the number is so small, as not to warrant a decided opinion, either for or against, if I may credit those who have built them, who consider them an excellent substitute for wood.

Bricks, for the construction of country houses, are rarely used, except in districts where they are manufactured. Furthermore, they have but few advantages over other materials. They are also objectionable on account of their readiness to absorb and retain moisture; and, without a coat of paint of some subdued shade, outside, are, to my taste, decidedly bad, and quite out of of place, among the green fields of the country.

Let us next pass to iron, as a material for building, which, no doubt, is first-rate, but its expense will confine it, for the present, to the massive warehouses of our commercial cities, where great strength and solidity are required. But those who live to number this century with the past, may see iron farmhouses and iron barns—particularly if this branch of American industry is fostered as it should be.

Last, but not least, on our list, comes stone. This is, to my mind, decidedly and emphatically, *the material* for us at the north. Its solidity, durability, strength, beauty, imperviousness to moisture, its coolness in summer and warmth in winter, the facility with which it can be obtained, render it, take it all in all, the best; and when once built, there it stands, to be transmitted to "the children, and the children's children, unto the third and fourth generations." The lamented Coleman said—"We build too much for the present;" and when Agricultural Commissioner for the State of Massachusetts, he gave a very favorable opinion in regard to stone, over every other material for building purposes. A great many farmers labor under the mistake, that they have no stone fit to build a house, and still have miles of stone wall on their farms. Think you these men would buy stone to lay even a cellar wall? Certainly not. Then the objection is answered; for stone fit to lay a cellar wall, is fit for the outside walls of the house. Indeed, almost every farm in this rock-bound region, has suitable stone, enough and to spare.

Connected with this subject, is the matter of *roofing*. Shingles are in most general use here, but they are expensive, and not durable; though there is a great difference in them. Those that are split, instead of sawed, are preferable. Slate is used in our cities; also, tin and zinc; but all these are too expensive for the country. *Mastic* has been tried, but with what success, I know not. So, also, has paper, and an article called asphaltum, been used in England; and a sample has been imported, but by whom, I cannot learn. Tiles are used a great deal in England, and are there considered cheap and good; and I see no reason why they might not be used, to some extent, in this country. Now, as Mr. Delafield has imported a tile machine, let some one try the experiment, and give us the results, through the columns of the Agriculturist. Perhaps, after all, stone houses, with tile roofs, after the fashion of the mother country, (only Americanise them a little,) will be the thing needful.

One great reason why modern-covered roofs do not last as well as old ones, is the bad nails we use now-a-days. This cut-nail business was set out, in its true light, by Lieutenant Governor Reed, at the legislative agricultural meetings at Boston, in 1848. He said—"These nails are a little better than cast iron—that is, of cast iron run only once through the rollers. The nails are also small, 500 to the pound. The proper size is only 400. These poor nails are sold at 4½ cts. per pound, but the manufacturers would make good nails, of refined iron, if ordered, at 5½ cts. per pound. Manufacturers would make good nails, but the public have called for *cheap*

nails; and they have got them, poor or worthless." Gov. Reed then shewed the two kinds of nails spoken of above, and they were examined with a great deal of interest.

Inside finish, also, claims a passing remark. Let us strive to do away with so much paint. Rather finish with some of our beautiful native woods, and varnish immediately, and a much handsomer finish will be obtained than by painting.

J. B. D.

Boston, January, 1850.

TO DESTROY CUT WORMS.

I TAKE other papers, because they instruct and amuse me; but I take the *Agriculturist* because it teaches me how I am to pay for all. But to the point.

I was quite successful in my first essay last spring in forcing tomatoes, cabbage, &c. In May, I commenced transplanting them into my garden. Beautiful plants they were, too; and as I grew them myself, I felt quite proud of them. A day or two after this, upon going into my garden, I found the *varmint* that had destroyed them, smashed their heads, and replanted. But off they went again. I could kill the cut worms, but that did not replace my plants. A new idea then struck me. I pulled a few handfuls of clover, and laying a small quantity at the base of each plant, put thereon a chip. By this simple contrivance, I trapped the whole brood of rascals, and saved my plants.

The philosophy of the thing is this: The cut worm prefers the green clover, which will keep so for about a week, under the chip, and every day or two you can hand the worms which collect there, over to the tender mercies of the old hen and chickens. The trouble of doing this is much less than replanting.

H. M. BAKER.

Winchester, Va., January, 1850.

TO RESTORE A DROWNED CHICKEN.—One morning, a half-grown chicken was brought in, nearly dead, having been just taken from a swill barrel, into which it had fallen. I had little hopes of saving it, but I poured a few drops of brandy into its mouth, wet its head with cold water, wrapped it up in a piece of warm flannel, and then placed it near a warm stove. All this had to be done with great care, for it was so far gone, that the least movement seemed to affect it seriously. After a time, it began to revive, and in about an hour, it was running around. During the summer, when very young chickens were injured by being trodden upon by the hens, or struck by other fowls, I have often plunged their heads into cold water, when they would revive, and soon recover.

F.

TO REMOVE THE TURNIP TASTE FROM BUTTER.—The Farmer's Herald says, add a small quantity of saltpetre to the cream before churning. Don't give the buttermilk to the pigs, however, for you may chance to scour and kill them—unless very much diluted.

AGRICULTURAL GEOLOGY.—No. 1.

For a man to be peculiarly successful in any art, it is necessary that he should have a perfect knowledge of that art. This perfection is attainable, not merely by steady practice, but by the careful study of other branches of art and knowledge connected with the one pursued. It has been often found, that the constant practice of the farmer does not, in itself, always return successful harvests; and it is known that the approved practice of one neighborhood or state is a disapproved practice in another; and why? because other circumstances, beside practice, come into play to produce a harvest, such as the influences of atmosphere, of climate, and of soil. To guard against the unfavorable effects of these, or even to turn them to our advantage, requires that they should be studied and understood; and this constitutes the scientific portion of the art. The more intimately a farmer is acquainted with the constitution of his soil and subsoil, and of the strength and quality of his manure, the more he understands the circumstances which favor vegetable growth, the more likely is it, other things being the same, that he will reap more bountiful harvests.

The ability of a farmer to grow certain crops on his land, is restrained by its natural character and constitution. Each soil will only support a vegetation suited to its own nature; and though this may be counteracted to some extent by the efforts of the agriculturist, yet, on the cessation of these efforts, the vegetation returns to its original type. The love of plants for certain minerals confines them to very narrow limits; and where an alteration of the soil occurs, whereby the mineral is diminished in amount, or removed out of the soil, the plant disappears. This frequently occurs in fields which have been limed; the character of the weeds are changed, and a new set of plants, which delight in lime, displaces the older growth. The hemp, flax, the nettle, and all of the botanical family urticæ, flourish in soils which contain potash; the salicorniæ family, as samphire, glasswort, and saltwort, in soda soils; and the leguminosæ, as clover, beans, and peas, prefer soils which have plaster as a constituent.

The relation between the plant and the soil is most intimate, and any branch of knowledge which teaches us how to estimate the value and properties of earths, and to determine their constituent parts, should receive the studious attention of those interested in agricultural improvement.

To trace a soil to its original rock, is to learn its composition to some extent, and give an insight into the kind of manure most beneficial. If we know our soil to be derived from a distant rock, we infer that it contains a large amount of the mineral matter of that rock, and we at once know what it is best suited for. In this case, it is what is called a drift soil—it is not formed by the wearing away of the rock bed beneath our feet—it possibly contains few mineral elements in common with the rock below, and a new question is presented to us, namely—Can this rock below communicate anything to

our soil which it either wants or has not? Can we answer this question without making a chemical analysis? We possibly can. A knowledge of the position of that rock with regard to other rocks, will answer the question satisfactorily. This is exactly the sort of knowledge that *geology* teaches.

To know how some soils happen to be of a drift origin, while others have remained fixed when they were first formed—how rocks are produced—of what materials they are made up—how many varieties of rocks there are—where they are met with in these states—and all the intimate connections between stone and soil—are so many points of information which the intelligent farmer should be acquainted with.

This information geology affords; and we propose, in a series of communications, to lay before our agricultural readers, the valuable facts of geology in its relation to agriculture; to draw upon the numerous *State Reports*, which contain valuable hints for the farmer, as well as upon various other authentic sources of information; and, while describing the many rock systems of this country, to illustrate the composition of the soils derived from them, by analyses of such soils as have been made in our laboratory, pointing out their peculiarities, defects, and requirements.

The common query, do stones grow? has still to be answered to many farmers—the more important question to them, how did his earth, clay, and sand come to be here, and whence did it come? is one they do not busy themselves with. We may assert that every clay, earth, or sand, implies the existence of a rock from which they are derived; the rock is the source of all, and according to the nature of this rock, will be the nature of the earth produced.

If the parent rock should happen to be a limestone, the clays will contain lime, and the sand will also contain a large quantity—if it had been a slate rock, the clay would contain no lime, nor would the sand—if it had been a granite, the clay would probably contain some lime, and the sand, none at all. Thus the mere terms of clay and sand, convey little meaning, if we do not state the rock from which they are derived. Thus granite clays, slaty clays, and calcareous clays, furnish three very different soils.

CONSTRUCTION OF CATTLE YARDS.

It is surprising to see the slovenly and wasteful practice in which many farmers feed their cattle, in the field where the sward is broken, and the land is trampled down almost as hard as a brick, the fodder wasted, and their droppings nearly lost. How many farmers do we see, who pay little or no attention to making manure on their farms. It is very common, in passing through the country, at this season of the year, to see many farmyards with their gates open or bars down, and the cattle strolling along on the sunny side of the fence, dropping their manure all over the street, instead of in the yard.

Many farmers have not a sufficiency of racks in their cattle yards, but litter their fodder on the ground, to be trampled upon and not more than

half eaten. Many who cart their manure from four to six miles, could make double what they now do, by taking a little more pains. We also frequently see farmyards with a stream of the very essence running from them into the highway, to be washed away in some river.

To avoid this, let every farmyard be constructed somewhat on this plan: Excavate the centre in a concave form, placing the earth removed upon the edges, leaving the borders eight or ten feet broad, and level, to feed the stock upon, and from two to four feet higher than the centre.

When the soil is not compact enough to hold water, the bottom should be bedded with five or six inches of clay, well beat down, and covered with gravel or sand. This is seldom required, except where the ground is very porous. There should be deposited, in the first place, swamp muck, if the farmer has it; if not, then let him cart in washings of the highway, or anything in the shape of vegetable mold that he can get; then keep his cattle confined in the yard. This will soak up the urine, that otherwise would be nearly all wasted. To make the manure still better, the cleanings of the horse stable may be spread about the yard. In this way, from ten to twelve loads of good manure may be made from each animal per annum.

If our farmers on Long Island would adopt this plan, they would save a great deal of time and money. Most of them can cart but two loads of manure from the landings in a day. The freight there costs them, in this section, about 68 cents a load. Allowing that they cart four common loads in one day from the landing to their farms, it makes the cost to them about 80 cents more per load, which, for a common two-horse load, is \$1.60. If, by taking a little more pains, and so constructing their cattle yards, might they not save half of what they now pay out for manure?

Instead of feeding cattle in the old way, in the yards, where they are continually driving each other about, I would recommend a rack which I made some 12 or 14 years ago. It consists of two hemlock joist, sawed in the middle, making four pieces six feet long, connected together by strips of board, six feet in length, and supported by diagonal braces, extending from the top of one post to the bottom of the frame—the whole forming a rack six feet square. The slats are sufficiently low to permit animals to reach the bottom, over them. It admits four cattle to feed at once, and has a great advantage over any other rack I have seen. The cattle cannot get their fodder under their feet; neither will they be driving each other about, because their heads all come together, and they keep continually working their feed towards each other.

Huntington, L. I., January, 1850.

•••
GALLS ON HORSES may be cured by applying white lead, rubbed on dry, or diluted with milk or grease. A few applications are sufficient. This will also prevent white hairs from growing over the wound, unless they are the natural color.

TREATMENT OF MOWING LANDS.

It is a common practice with many farmers whose mowing grounds get "run out," or "hide bound," although still requiring them for purposes of hay, to plow and crop them for a year or two, and then re-seed them in grass, for the purpose of getting a *full* crop of hay—and this, too, on soils perfectly natural to hay grasses. Such treatment, I consider altogether unnecessary, and attended with the following bad results:—

1st. When a meadow is well and smoothly laid down in good condition of soil, with Timothy, clover, and other grasses, it does not arrive at full bearing maturity until the third or fourth year of their growth; the grasses requiring that time to obtain sufficient root to give the turf a compact and close bottom, and yield the sweetest and most nutritious hay. About this time, (the third or fourth crop,) if not overflowed bottom lands, or not top-dressed, the "run out," or "hide bound" process usually begins. The plowing and cropping, (without manure,) process, is more exhausting to the soil than thrice the number of grass crops, and when again laid down, is less fitted for hay bearing than before; and by this process, a constant deterioration is going on in the soil. Even if a dressing of 20 loads of barnyard manure to the acre be applied to the plowed crop, two of them will generally exhaust it, and leave the land heavy and inactive for the grass seed, when received.

2d. The irregularity to which the grass, or stock farmer is subjected in the frequent failure of his grass seed to "take," causing him, in most cases, to plow a year or two longer than he otherwise would have done, and consequently subjecting his land to the exhausting draft of the tillage crops. Now, the remedy for these difficulties, I have found exceedingly simple and effective; and which is, top-dressing and harrowing, either immediately after the land is mowed in summer, or at any time between that and the starting of the grass in the spring—and in illustration I will give a little of my experience.

My land is mostly in grass; the soil a friable, clayey loam, resting, at 6 to 18 inches below the surface, upon a stiff, clayey subsoil. On coming into possession of it, eight years ago, I found much of it had been several years under the plow, in an exhausting succession of crops, and thrown into narrow, uneven "lands," requiring thorough plowing again, to lay them into proper surface for grass. This I did, and as soon as prepared, seeded them down with barley, oats, and wheat; and in only one instance have I found it necessary to break up any field so seeded; and that because it was not sufficiently level to mow smoothly.

The lands so seeded have done unusually well, and yielded good crops; not, however, getting a good, close turf, until the third or fourth year. I have uniformly fed them close in the fall, after mowing, and find it no detriment to the succeeding hay crop, if not poached by the cattle in the late wet weather of autumn, which last is always

to be avoided, as it invariably spoils the meadow by treading out the grass, and making the surface uneven. When the grass shows symptoms of decline, or the surface gets mossy, as it sometimes will in the best of grounds, I have given it a moderate top-dressing, say 5 to 10 cords an acre, evenly spread with 4 to 6 quarts of new seed, and thoroughly harrowed. The result has always been a double or triple crop of hay the next season; and when the land has not been "hard run," a thorough harrowing, with new seed, without manure, has answered the purpose. *Don't be afraid of the harrow.* Your meadow may look as if it was all dragged to pieces, and bleak enough to bear a crop of grain. No matter. The new seed will take all the better, and the old roots strike anew with increased vigor. I have one piece in my eye of about three acres of stiff clay knoll, a corner of a large meadow of 60 acres, which, in 1848, did not yield a ton of hay to the acre. I last year fenced it off, and yarded my cows there over night, for a few weeks, intending to plow it up the next spring, for a tilled crop. The cattle had trodden it all up, so that hardly a green blade of grass was to be seen when winter set in. But, being hurried with my spring work, and seeing the grass spring up very green last April, I removed the temporary fence from around it, sowed four quarts of new seed to the acre, and harrowed it thoroughly each way, with a heavy drag, until hardly a green thing was to be seen upon it; and yet, when mowing time arrived, I had the solid satisfaction of cutting within a fraction of three tons of the best Timothy and clover to the acre—in the whole, upwards of eight tons; and a first-rate bottom on it for another year. This piece was, however, well manured. In my opinion, the stale of the cattle was more valuable than the dung.

Two years before, I had a piece of about equal size treated in the same manner, which gave me upwards of two tons to the acre, when, the year previous, it yielded not even three fourths of a ton to the acre. Another field of 16 acres, a part of which was top-dressed with about five cords of barnyard dung per acre, the remainder not dressed at all, and all harrowed, gave me an average of two tons an acre, against a crop the previous year of less than a ton; although that previous crop was much diminished by the drought.

If the ground be quite dry when harrowed, the roller should follow—and the roller is beneficial always, when not too wet. The harrow should be light or heavy, according to the condition of the soil or sod; a loose soil will better bear a light harrow; a compact soil a heavy one; but the teeth always should be sharp, and no matter how lively or often they play over the ground. Let the land be *thoroughly scratched*. Such treatment I consider better than plowing, even when the land is immediately seeded again to grass; as it gives a quick return, and a thick bottom at once.

As to manures for top-dressing, scarce anything soluble comes amiss. Old ashes, plaster, lime, hair, rags, dung of all kinds, urine, wash

of streets, sinks, gutters—in fact, every manure that can be got on to land, is valuable.

Occasional pasturing, too, for a full season, is highly advantageous to mowing grounds. Grass is sometimes thrown out by frost, and stands in tussocks, apart, leaving open spaces of ground between. The tread of cattle or sheep compacts the soil, and nipping the young grass spreads the roots, and prevents their exhaustion, by ripening the stalk and maturing the seed; and every grazier or dairyman, will attest the superior value of old pastures, in giving flesh to stock, and quality to butter and cheese; and to the superior excellence of the hay from old meadows, (when in good condition,) for the consumption of all kinds of cattle, horses, or sheep. This superiority arises from its fineness, and its richness; induced by its numerous roots, and multiplied leaves, branches, and stems.

And so long as we have numerous instances of meadows which have remained unbroken for a period much beyond the life of man, it may be well to exhaust all other plans of restoration, before a good bottom is broken up, for the only reason that it is run out, hide bound, or mossy. My own best pastures have never been plowed, and are yearly growing better; and the same remark will apply to a part of my meadows.

LEWIS F. ALLEN.

Black Rock, N. Y., January, 1850.

NEW-YORK PROPOSED AGRICULTURAL COLLEGE.

We have received the report of the commissioners appointed to mature and report a plan for an Agricultural College and Experimental Farm. With many of the features of this report, we agree. We wish to see a beginning made in the great business of educating the farmer for his profession. We will approve of the undertaking, in almost any shape it will be likely to assume, because it is an undertaking. At the same time, we think the plan should be one most likely to lead at once to beneficial, practical, and even popular results. A failure in the first attempt within the United States, to establish an agricultural college, would throw a slur upon agricultural education, which might require another half century to overcome.

Many of our farmers can hardly forgive the application of any scientific principles to their occupation. With how much less favor would they view an attempt to make science, and intelligible, well-established principles, its basis? A slight mistake would jostle the whole fabric about our ears; and no one would be so ready to lend a helping hand to such a conclusion, as those for whose benefit it was especially designed. We regret to be forced to this assertion; but it is, nevertheless, most lamentably true. We would not, of course, be understood as including a single one of our agricultural readers among this number, as the very fact of perusing such works, is *prima-facie* evidence of their readiness to be enlightened. But after deducting the 15,000 or 20,000 of such there may possibly be within this state, there are enough left among the remaining 200,000 to prove our assertion.

We ask, then, in this proposed institution, for a well-considered, judicious, and efficient organization. No petty plans nor petty appropriations are worthy this great design. A grant of \$200,000 of six-per-cent. state stocks, is the least sum that should be asked, the income of which should be annually applied for the current expenses of the college, while \$50,000 additional should be expended in a farm of moderate size, amply provided with appropriate and economical buildings, (after such models as the young farmers can hope to build for themselves, from their own future earnings,) chemical, and other apparatus, a well-selected and extensive library, (containing numerous duplicates of all the best agricultural periodicals and standard works,) extensive specimen collections of such soils, minerals, insects, anatomical and surgical preparations of improved domestic animals, as will tend to elucidate the whole subject of the farmer's and breeder's business, and compel them to understand it. Every insect and worm, either beneficial or injurious to vegetation, should be shown, in every stage of their existence. And there should be accurate and extensive plates, more fully illustrative of form, color, and appearance, coupled with reliable and readable works on the subject, so that a graduate should have the stolidity of a beast himself, who should fail to understand and appreciate the difference between a scrub, or dunghill, and a well-bred, useful animal. Different varieties of wool should be shown, and their exact character, merits, and value decided; and this information should be a living, progressive thing, not made up for once and abandoned, or rather embalmed for perpetual preservation or slow decay; but the spirit displayed in its commencement, should be ever ready to incorporate the advancements and improvements of the day.

The plan suggested by the commissioners, of extending to a limited few a favored position in the college, we do not approve. Let admission, on equal terms, be granted both to old and young. Let this fountain of knowledge be provided for all, and so provided, that it will attract all, whose circumstances will admit of attendance. Then let all come and be filled with practical, reliable information, and a full and confiding belief in there being something to learn, beyond what has been taught them on their old home lot, or in their father's cowyard.

We can readily conceive of a college so appointed and managed, that the only trouble would be, to repress the zeal and ambition to enter it; not the dull, inanimate, namby-pamby, still-born affair, that would excite the derision of the ignorant, and the pity of the enlightened. It should be so attractive, and so manifestly utilitarian and practical, that the veriest clodhopper that consults his two-penny almanac for the forthcoming weather, or the moon for planting his seed, should go home to his miserably tilled acres, ashamed of his ignorance and folly, and only ambitious that his sons might receive those benefits from the institution, which this comparatively benighted age had denied him.

But to carry out our views, those of the com-

missioners would fall far short of the object. "A president, with \$2,000, and six professors, with \$1,250 each, per annum," would not at all subserve the purpose. We can hardly see the use of any president in such a concern, unless an active, intelligent man, also occupy the professional chair. If eminently fitted for such a post, we would willingly give him not only \$2,000 a-year, but whatever additional sum might be necessary to secure his services. And not only would we give this to the president, but cheerfully should this be awarded to each of the professors who were equally fitted for the station. And we think the funds would be far more advantageously appropriated to two or three men of the highest genius and attainments, if no more could be found, than to be doled out in paltry sums to mere tyros in the art. There is, at least, one such now temporarily abiding among us, who is eminently fitted for such a chair, and whom the public spirit—nay, the merest spirit of selfishness, rightly considered, should hereafter induce to remain permanently among us. We mean Prof. James F. W. Johnston, of Durham, England, whose ingenious, laborious, and practical teachings, on some of the most important features of agricultural science, have illuminated two hemispheres.

To Dr. Leibig, of Geissen, notwithstanding his erratic theories, we would also make an offer of a professorship, in gratitude for the impulse he has given to agricultural and physical science, and the possible good he may yet render to them. And may we be permitted to ask, if the salary of our chief magistrate would be too much to offer to such men? We can find ten thousand men within this state, who deem themselves, and are considered by their admiring friends, fully qualified to exercise the gubernatorial functions; yet, do we know of *one* within our state, who is just the man for such a station?

We object decidedly to the professorships of law and engineering, recommended in the report. These principles are taught in numerous instances elsewhere, and nothing extraneous should be added to such an institution to swell its expenses, but what is purely agricultural. On the other hand, we would give to entomology and the whole subject of the worm, grub, and insect tribes, the fullest attention the subject should occupy. Hundreds of millions are annually received throughout the world, for the products of the silk worm, the honey bee, cochineal, &c.; and more than hundreds of millions are annually lost by the depredations of the cut and wire worm, turnip beetle and slug, the Hessian fly, and wheat worms of various kinds, the cotton louse, slug, and boll worm, the curculio, the orange louse, peach, and other fruit-tree worms, the bee moths, and an endless catalogue of kindred marauders. And who knows how far down the scale of existence these insects descend? and it is yet a mooted point, whether the potato disease, the pear blight, and the yellows in peach trees, are not the effect of some insect enemy, a knowledge of whose existence might lead to their destruction?

When we sit down deliberately to estimate some of the probable results of the establishment of an agricultural college, we are amazed with the apathy displayed on this subject, by some of our most enlightened men. If *properly organised* such an institution would probably, within ten years, annually return to the farmers of the state of New York, at least ten times its actual aggregate cost, and it is more likely it would repay twenty times the amount. Every additional bushel of wheat raised on a farm within the state, would give the sum required to establish the college; and even the additional profits in poultry consequent upon the introduction of improved varieties and their more judicious management, would be sufficient to found a new college every year.

In conclusion, we say, whatever is to be done in this matter should be well done. It is a perfectly easy and simple matter, so to endow and arrange a college, as to kill it off in five years. We may thus befooled ourselves, but we shall not thereby stultify our sister states. Massachusetts will have an efficient agricultural institution within a short time; and with all our zeal, we much doubt if she will not be ahead of us in this business. Yet we can distance her if we choose. We have the present vantage ground. Let us have from one quarter to one half a million of dollars to endow and carry it out successfully; and rather than accept a less sum than the least indicated, the money had better be left in the treasury or squandered, as many such sums have been before, by political profligates. We want no sum that shall only ensure disgrace to agricultural science while professing to uphold and disseminate it. If we had one man of sufficient eloquence, and the proper knowledge on this subject, to enforce its claims on the legislature, the amount would be voted by acclamation. Not a member would dare go home to his dinner, and look a leg of mutton or a cabbage head in the face, after withholding from agriculture the paltry sum she now demands, and which she would repay to every one of our citizens, with such bountiful returns in our augmented harvests.

JERUSALEM ARTICHOKE.—It is alleged, that the liquor in which this vegetable has been boiled, like that from potatoes, will poison both man and beast. The best way is to steam both; or boil and throw away the liquor.

Have any of our readers experienced any ill effects to their stock, in feeding the raw artichoke?

We will thank such as have had experience with this root, to give us the results of feeding it; also, their manner of cultivating; yield per acre; and its value, as compared with potatoes, Indian corn, &c., both in bushels, and from the same quantity of land of similar quality; and the comparative cost of cultivation.

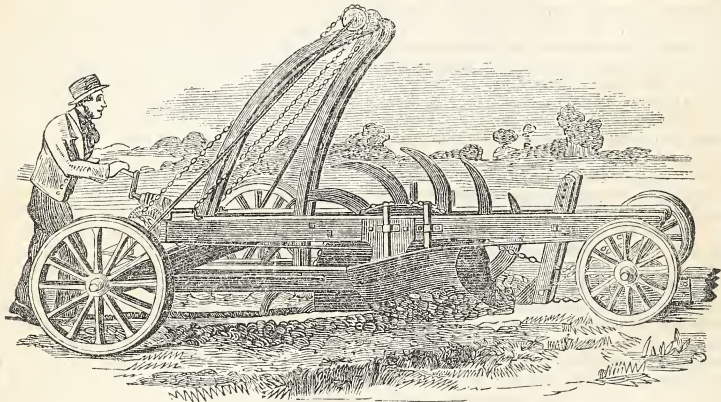
GERANIUMS run wild on the rocks on the island of Madalena, near the north coast of Sardinia. Capt. Roberts has a hedge 200 yards long and two yards high.—*Gard. Chron.*

PAUL'S DEEP-DRAINING MACHINE.

THIS machine, represented by the cuts, fig. 32, *a* and *b*, is an English invention, and is just now attracting considerable attention in Great Britain; but what its real merits are, we have not yet been able to ascertain, although we have written repeatedly to our friends abroad for more particular and reliable information regarding it, than we find in the papers. It is said that it can cut a drain 3 to 4 feet deep, at a single operation, and at the rate of 300 feet per hour. Before believing this, however, we should like to see some better authority than we find for the assertion. It is said, also, that it can be worked by three or four horses; but it is not reasonable to suppose it can cut a three or four-foot drain with so little power. The cut shows the different parts of the machine so plainly, that they need

they are allowed to roam at large. When cattle are fed in the field, much of the hay is blown away by the wind, and in stormy weather, it is trodden under foot and wasted. Their manure is dropped under the fences, and in other places where it is of little or no value; but when kept in stables, with the addition of muck, sawdust, leaves, or scrapings of the roads, sides of ditches, &c., with which most, if not every farm abounds, the value of the manure, as well as the quantity, can be greatly enhanced.

I once heard an intelligent person say, that a friend of his constructed a large reservoir, into which he conducted the urine from his stables, also, the drainings of his yards; and after testing the merits of the liquid manure thus obtained, he was fully satisfied that one hoghead of such liquid was worth several cords of barnyard

PAUL'S DEEP-DRAINING MACHINE.—FIG. 32.—*a*.

no explanation. In addition to cutting drains, this machine is used for the purpose of subsoiling, and bringing the subsoil to the surface, as a top-dressing for the land.

HOUSING CATTLE—SAVING MANURE.

CATTLE should be kept in good, warm stables, with an abundance of clean, dry straw for them to lie down upon. Do not forget to give them plenty of good hay; and if you add a few oats, or roots, to their daily allowance, they will thank you for it, and return you principal and interest, in fourfold proportion. Few farmers are aware of the great loss they annually sustain, by allowing their cattle to shift for themselves as best they can, in cold, stormy weather. I know from experience, that they will keep on much less feed, when provided with good, warm stables, than when exposed to the peltings of the merciless storms of our cold, northern climate.

When cattle are kept in stables, their manure can be stored under cover, or in the yards, in such quantities as will prevent loss by drying and evaporation, which always takes place when

manure. My own experience fully confirms the above declaration. I would strongly urge upon my brother farmers, the great importance of erecting good stables and sheds for their cattle. It is certainly some comfort to a person of humane feelings, when he sits by a good, warm fire, enjoying the smiles and agreeable conversation of his better half, if he is so fortunate as to have one, when the howling tempest is raging without, or the keen, searching wind of a winter's evening is whistling around the house, and seeking admission at every nook and corner, to think that his cattle are all in good, comfortable stables, and not exposed to the benumbing influence of the cold storm that, perchance, is raging without.

A WESTCHESTER-COUNTY FARMER.

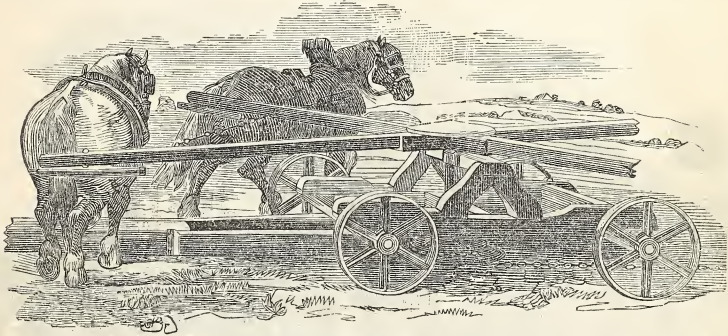
INSTRUMENT FOR MAKING POST HOLES.—A tool to dig post holes in stony land, where the post auger cannot be used, is made of one-and-a-half-inch iron rod, about six feet long, with a knob on the upper end, and the lower end made into a chisel, with a steel edge, five or six inches

wide. With this instrument, roots can be cut off, stiff clay dug up, even when full of pebbles, much more effectually than with a spade, and in situations where it would be impossible to bore the holes.

STEAM PLOWING.

WHAT is doing by the ingenious farmers and mechanics of this country, towards applying steam power to pulverising the earth? That this has not been done elsewhere, is no valid reason why the attempt should not be made here, and persisted in till accomplished; and that this will yet be the result, we conceive to be a foregone conclusion. If steam can be applied to the making, finishing, and even sticking of pins; and to the various manipulatory operations of hand-carding, spinning, and weaving of wool, cotton, flax, and silk, even to the suc-

idea. In plowing, the furrow rising from the plowshare, or point, presses the heavy mass behind it, up the inclined plane of the moldboard, and twists it over, to give it the inverted position which good plowing always requires. To do this, the furrow slice has to be pressed together or compacted by all the pressure necessary to lift and turn the earth, although in light and porous soils no prejudicial effects follow. But in adhesive lands the result is different. In using steam where the amount of power required would be of little consequence, all this would be remedied by lifting the soil, and even so much of the subsoil as might be judicious to raise, with a wheel acting as a moldboard; and in combination with one or more additional ones, the earth would be effectually broken up and blended in any manner desired. Many other advantages would be thus secured, which we cannot now specify. We have no doubt, the



PAUL'S DEEP-DRAINING MACHINE.—FIG. 32.—b.

cessful imitation of the salivary smoothing of their fibres, then we think the *deep-tillage system* will yet command the powerful aid of steam. For light plowing, such as is too frequently practised at the north, and almost universally at the south, for all crops except sugar, and for harrowing and cultivating, we have no idea that the steam plow can be ever used with advantage. But for heavy clay lands, and other fertile soils that require breaking up to remote depths, to insure the largest crops, we think steam is destined, ere long, to lend its potent aid. Unquestionably, the most perfect tillage is trench spading; next to this is thorough surface and deep subsoil plowing, superadded. The first is hopelessly beyond reach of American farmers; and the last is too expensive to commend itself to general acceptance.

In the application of steam to plowing, more scientific principles, and a more effectual practice in the pulverisation of the earth can be applied than is possible with the plow, owing to the great amount of power necessary to carry out this system successfully. We have no time to illustrate nor dwell upon this point, but content ourselves with pointing out a single

more perfect tillage which steam plowing would enable farmers to apply to their land, would augment many of their crops, two or three fold.

VALUABLE IMPORTATION OF RARE STOCK.

Doctor G. B. Davis, of Charleston, S. C., who went out to Turkey, a few years ago, as cotton planter to the Sultan, has brought back some valuable domestic animals, to wit:—

- 12 White Cashmere goats,
- 2 Thibet-shawl goats,
- 2 Maltese goats,
- 2 Scind goats,
- 2 Egyptian goats,
- 2 Alpacas,
- 2 Brahmin or Nagore cattle, male and female,
- 2 Water oxen, or Asiatic buffaloes,
- 4 White peacocks,
- 4 Aylesbury ducks.

The Cashmere goats shear from four to six pounds of long, fine, white wool. The Thibet goats have a coat of fur, which is combed out from the long, dark-blue hair, to the amount of 16 to 24 ounces a-year, which is worth near a dollar an ounce. The Cashmere wool is worth about half as much.

The Nagore bull, bred to common cattle, will give a product like those brought home by Lieut. Lynch. The water oxen are so called, from their fondness of going into that element. They are queer-looking brutes, but said to be invaluable for work in hot climates.

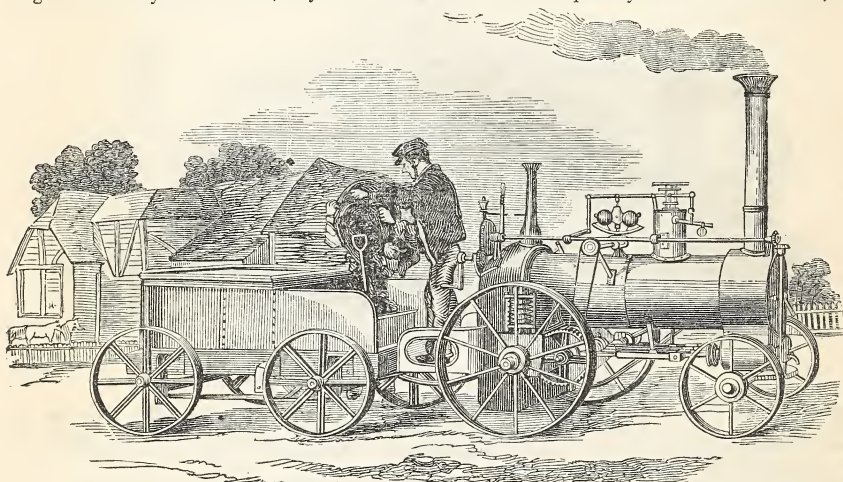
The Maltese goats are without horns, and possess remarkable milking qualities.

Doct. Davis also brought home a great many rare seeds, which he has distributed with a liberal hand.

PORTABLE STEAM ENGINE.

We give a cut of an English portable steam engine, which is extensively used. We think these may be introduced into many of the operations of American husbandry, (partially as a substitute for horse power,) with decided advantage. For many small farms, they are not at

will soon be proved, by the result of tea nuts planted in October. The fact that the tea plant buds and blossoms at the same time of the year in this climate, as it does in Asia, is in favor of an identity of time in planting. At the same time, I think early in the spring will be more certain. The tea nut, generally denominated "tea seed", is of the size and color of a hazelnut, and equal in weight to eight cotton seeds. The bulk of a full-sized tea nut is $2\frac{1}{4}$ inches in circumference; a middling-sized nut, $1\frac{1}{2}$ inches, average perhaps about $1\frac{1}{4}$ inches. Like all nuts, it contains an oily kernel, which is covered with a shell thicker than that of a cotton seed, but rather thinner than that of a hazelnut. The public mind is misled by calling it tea seed. It should be called tea nut, denoting more definitely its true character. Many persons have written to me from a distance, requesting me to forward a small quantity of *tea seed* in a *letter*,



PORTABLE STEAM ENGINE.—FIG. 33.

all suited; but where large operations are carried on, they may occupy a place among farming implements, with as much propriety as the plow.

TEA NUTS.

THE following letter, from Dr. Junius Smith, now residing in South Carolina, to the editors of the New-York Journal of Commerce, will be interesting to agriculturists, as well as to tea drinkers:—

The small quantity of tea nuts planted in December, 1848, failed to germinate, though fine, healthy nuts. Considering that they have no covering, or protection, whatever, after planting, in consequence of my absence in New York, and a severe frosty winter to encounter, it would not be expected that they would vegetate. Whether the same season of the year adapted to the planting of the tea nut in China, Java, and India, will be equally favorable in this country,

evidently misled by calling it tea seed. The nut, therefore, should be packed and transported in boxes, proportioned to the quantity and bulk. To avoid misconception, it may be well to call it by its true name, "tea nut."

It was not to be expected that people residing in the interior of Asia, unaccustomed to packing tea nuts and plants for foreign countries, and with no other guide but mere guess work, should make a successful shipment. The consequence of this want of experience, was an almost total failure of my last importation.

It was a great, though an expensive point gained, to know, with absolute certainty, what modes of packing *will not answer*. Plants and nuts, now on their passage home, were packed according to my instructions; and if they fail, so far as the manner of packing is concerned, the error, as well as the loss, will be my own.

Golden-Grove Tea Plantation, } JUNIUS SMITH.
Greenville, S. C., Jan. 22d, 1850. }

WHAT FARMERS OUGHT TO KNOW.

LET us see what farmers ought to know and do, to raise themselves to the character of professional men; and what almost any of them might accomplish in the long winter evenings, at a trifling cost for books, and a little more expense of hard thought and attention.

A farmer ought to understand the leading principles of chemistry. The soil he plods among at the plow tail, is not a mere inactive mass, sticking to his shoes when wet, and choking him with dust when dry. It is a vast laboratory, full of many and strange materials, always in action, warring, combining, changing, perpetually; to-day receiving accessions from the heavens; to-morrow, pouring them into the wide sea, to be again supplied to other lands. The earth is all but a living creature; and he whose business has been slanderously said to be but "of the earth, earthy," should surely understand the soil's nature, its elements, its likings, and its diseases.

The farmer should understand physiology. Under his care, he has the noblest forms of creation—the ox, the horse, the sheep. Can he spend a life among them, and not know how the heart beats—how the nerves thrill—where lie the muscles—what are the principles of action—and the seats of disease—how the fat grows—and how the bones are formed? Can he be a breeder, who has never studied the peculiarities of races? Can he be anything but an empiric, who undertakes to feed and fatten cattle, without knowing of what the food is composed, and what parts of the body require this or that element?

The farmer should have a knowledge of medicine, and of the elements of surgery; for though, in this respect, when applied to human ailments, it may prove that "a little knowledge is a dangerous thing," yet many a fine animal is allowed to become dog's meat, because its owner could not distinguish between a fever and an inflammation, set a bone, nor bandage a wound.

The farmer should be a botanist. The primeval curse of mother earth was, that she should bring forth thorns and thistles; and many other noxious weeds besides, have since been added to her progeny. How great the amount of toil expended, and how serious the loss of crops, from such plants as Canada thistle, burdocks, turkey weed, and a host of others, let those tell who have been the sufferers. Many books have been written on such things; many plans have been given for eradicating them; but unless the farmer can distinguish them—unless he knows their character, histories, and modes of growth, how unaided does he go to his task! Besides, botany, in all its shapes, is the natural science of the countryman. How does the seed germinate? How does the tender leaf unfold itself? How is the blossom impregnated and the fruit formed? What will injure, what improve each plant? All these are questions which every farmer should have studied and ascertained. And can any one be content to spend a life in ignorance of the names and characters of the trees and flowers that are so gorgeously spread

around him, painting his fields and woods with their thousand hues, and rendering this outward world a mass of beauty?

The farmer should be—or shall we say, should wish to be—a naturalist. No one has so many opportunities of observing and noting the habits and peculiarities of animals, birds, and insects. In some cases, this knowledge may be of inestimable service. It must always be a pursuit of pleasure, and cannot fail to refine and improve the mind and sensibilities, both towards the inferior creation, and towards man.

But time would fail to tell of what the farmer ought to know and understand. There is no knowledge which would not be serviceable to him. There is none which will not elevate him in the scale of intellectual beings; and, what, perhaps, is more important to many, there is scarcely a physical science which he will not find putting money into his pocket constantly. How many times in a life would a barometer save a whole harvest; how many blacksmiths' and carpenters' bills may be escaped by the humble knowledge of the use of tools. Now, if our farmers would but become self-instructors, and, instead of doing just as their great grandfathers did before them, they would think and learn for themselves. No profession would become more honorable, carry more weight in society, nor be more ardently sought after by the active and intelligent of all classes. Instead of our young men rushing from the country to the city, the city youths would yearn to be farmers; and instead of the chief emulation being who should save most, the strife would be who should accumulate the most by the profoundest experiments, most successfully carried into practice. By these means, farming would cease to be the mere drudgery of "dirty-handed industry;" and every operation would become scientific, based on great principles, breeding new thoughts and new results, and ending in valuable acquisitions. Instead of the poet describing the farmer as one who

"Wandered on, unknowing what he sought,
And whistled as he went, for want of thought,"

we should have farmers themselves distinguished authors of valuable works; scientific, at all events, if not poetic. Some such great minds we already have employed in farming, but unfortunately, that is not yet the character of the class.

G. F.

Michigan, Jan. 5th, 1850.

MANURE—PLOWING UNDER GREEN CROPS.

I wish to say a few words on the subject of manure, and plowing in crops as a fertilising process. Although I would have every farmer make all the compost he can in every possible way, to enrich his soil, yet it seems to me he needs something in addition to this, to fertilise his land. Suppose a man has a farm of 200 acres. He will not be likely to make more than from 200 to 400 loads of manure a-year, and this ought to be put on from 5 to 10 acres. You will see, by this course, it will be a long time before he is enabled to enrich his whole farm.

Now, the way I would advise, would be to

endeavor to plow in some crop on the land you wish to enrich. With us, it is a very common practice to plant corn after rye. In this case, I would plow in a crop of buckwheat the fall previous; sow the buckwheat as soon as the rye is off, and then plow it in when it is in the blow; or sow rye again in September, the fall before planting. The next spring, by the 10th of May, it will be sufficiently grown to make quite a sward. Then I would plow it under and plant with corn. Or, suppose a field is in clover that you wish to plant the succeeding season. Let this be mown as soon as the 1st of July, and then allow the clover to get a good second growth; plow it under in September, and sow with rye and plow under the next spring, as before mentioned. If you have a clover field that you wish to plant the next year, you must not go on the "get-all-you-can-off" plan. If you do, your corn crop will be sure to suffer. Take, this or some similar course, and use all the manure you can make with plenty of clover seed and plaster, and you need have no great fear of running out your farm. W. J. P.

Lakeville, Ct., January, 1850.

BLACKSMITH'S PORTABLE FORGE AND BELLOW.

THESE are compact, light, and easily moved wherever required. The bellows is situated

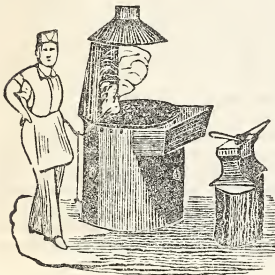


FIG. 34.

under the forge, and may be set in doors or out, as most convenient. The different sizes weigh from less than 100 to over 400 lbs., suited to all kinds of work, from a dentist's or jeweller's, to heavy smith's work. Price \$30 to \$50.

PRUNING GRAPES.

ALL gardeners are aware that the scarcely perceptible buds on the lower part of the shoot, and which are the only ones retained in close spur pruning, never produce such large bunches as the bolder buds situated higher up on the branch, which have been nurtured by large and well-developed leaves; therefore, those who desire to have large bunches of grapes should either adopt the long-rod system of pruning, or cut their spurs at the second or third eye. The latter is the method I have always followed in spite of the objections urged by some persons that in the course of time the spurs get long and unsightly, which, to a certain extent, must be the case under the best management; but as these long spurs are conspicuously seen only when the vines are leafless—a period when no great beauty can be discovered in a vine, in whatever way it may be pruned—the matter seems to me

scarcely worthy of consideration, so far as appearance is concerned. Growers of grapes for market generally practise the close system of pruning, not, however on account of greater neatness of appearance, but because by that method middle-sized, compact bunches are obtained, which are preferable for market purposes to large-shouldered, loose bunches. Some persons further object to large bunches because they are more frequently affected than small ones with what is termed "shanking;" and this is no doubt correct; but the reason appears to me to be not because the bunches being large are therefore more liable to that defect, but because 20 large bunches require more support from the vine they grow upon than the same number of small ones.

Shanking.—It has always been my opinion that shanking is caused by want of food, or in other words, that the berries which shrivel and turn sour, or remain of a pale red, while the rest of the bunch acquires its natural black color, are just so many more than the vine is able to bring to maturity. I stated this opinion several years since in the "Gardeners' Magazine," and it was urged in opposition that strong-growing vines, not overlaid with fruit, are sometimes subject to shanking; this, however, rarely occurs, and when it does happen, I conceive it will always be found that something is wrong at the roots; either deep planting or imperfect draining, or soil of a cloggy nature, which holds water like a sponge, or some other defect which prevents the free imbibition of nutriment by the tender spongioles. The vines alluded to in the first part of these papers afford one strong proof of this, for it was found upon taking out the earth, for the purpose of making a new border, that the main body of the roots were buried about 3 feet deep in heavy, adhesive soil, and yet these vines made good wood.

Borders.—Another instance occurred in a garden near this place, where, several years ago, some very excellent new vineries were placed by the owner, under the superintendence of Mr. Penn and Mr. Wilmot—the former being authorised to heat the houses by his then new system, and the latter to direct the formation of the border and the planting of the vines. It is scarcely necessary to state that the heating proved a complete failure, and the pipes have since been removed from the back to the front of the houses. The border was made in the common way, by digging out a pit from 3 to 4 feet deep, laying some stones in the bottom for drainage, and then wheeling in the fresh soil, which fresh soil in this instance consisted of a considerable portion of what might be called pond mud. The vines grew vigorously in this rich and heavy compost, but although they had the advantages of good houses and good management, they never produced good grapes; the white Muscats shanked and shrivelled, and the black Hamburgs never got beyond a brown. So very unsatisfactory was the fruit, that it was deemed advisable to remake the borders, which was done two or three years since, and the same vines are now getting established in the new

soil, and bearing good grapes; yet they are not so luxuriant now as when their produce was inferior in quality and less in quantity. It is therefore evident, that vines might make gross wood, and at the same time be deficient in the pabulum necessary to bring the fruit to perfection.

In all the instructions for the making of vine borders which I have read, "turfy loam" is recommended to form the principal ingredient in the compost, but the particular kind of loam to be chosen is rarely or never specified, although under that vague name soils of widely different nature and quality are comprised. The turfy surface of a pasture is alike called loam, whether the subsoil be clay or gravel, and when first dug, there may probably be but little perceptible difference, but when after a few years the herbage and fibrous roots which form the turf have decayed, it will be found that the loam from above the clay is much more retentive of water than that which had gravel beneath it; I would therefore recommend all who have the opportunity of selecting their soil, to choose loam that lies upon a porous subsoil, and that feels soft and soapy when rubbed between the fingers. A mixture of such soil with a fourth part of half-rotten farmyard dung, and another fourth of whole bones and mortar rubbish, will form a border in which vines cannot fail to do well, if it is made shallow, (from 2 to 3 feet deep, according to the situation,) wide, and well drained at the bottom. The grand secret of growing good grapes is to get an abundant stock of healthy roots, and this cannot be done in a cloggy, adhesive border.—*Gard. Chron.*

MR. ROBINSON'S TOUR.—No. 15.

A South-Carolina Rice Plantation.—On the 12th of January, I left Charleston, upon a small steamboat that goes up Cooper River twice a week, having an invitation to visit Dean Hall, the plantation residence of Col. Wm. A. Carson, an extensive rice planter. Col. C. owns 3,300 acres of land, only about one third of which is cultivated, and the remainder is in the original forest. After the most approved fashion of the south, Col. C. cultivates 650 acres in rice, 90 acres in sweet potatoes, 180 acres in corn, and 26 acres in oats. The remainder of the cleared land is taken up in gardens, yards, lots, and roads, of which last he can show a pattern worthy of imitation.

Can you believe me when I tell you that every acre of these crops is put in with hoes—that a plow is never used upon the plantation, except to scratch the ground a little between the corn rows? The rice land, being reclaimed swamp, and kept wet during the growth of the crop, is perhaps too soft to admit of using horses or cattle for draft. But why, in this age of improved agricultural implements, the sandy-loam upland should continue to be dug up with hoes, just as it was a century ago, passeth my understanding. But this is not the worst waste of labor. I have seen a hundred negroes in a lot, threshing rice with flails, winnowing it in the wind, and carrying off the straw half a mile in

bundles upon their heads. Col. Carson has so far advanced in improvement as to thresh his crop by steam; but in some other labor-saving practices he is still keeping company with men of past ages.

To give readers some idea of rice cultivation, I will describe the process from the beginning.

In December and January, if the stubble is dry enough it is burnt off, and if not, it is dug up and piled, or turned under by enormous hoes, which the negroes raise high over head, and let fall with the least possible exertion of strength, and at so slow a rate the motion would give a quick-working Yankee convulsions. But the negro has his task, that is, one third of an acre, (which the said Yankee would do with a plow in two hours,) and so it is useless to expect Cuffee to move any faster than to accomplish it before dark. In March, the ground is all hoed over again, and clods broken up and drills opened with suitable hoes, 15 inches apart, and the seed drilled in by hand, and covered with a wooden baton. The water is then let on for a few days until the seed is sprouted, and then it is drawn off. When the plant attains the fourth leaf, go through with the hoes, and if the weather is favorable, hoe again before letting on the water, or let it on at once for ten to twenty days, and then draw off and clean out the grass, and then let on the water, and keep it on until the grain is ripe, which is the last of August. It is cut with sickles, bound in small sheaves, and, of course, carried off upon the negroes' heads, either to hard land, where it is carted, or to flat boats along the shore, or in some of the large canals through the fields. From the boats, it is carted or carried to one great stack yard, where it is put up in very handsome round stacks, or long ricks, upon beds graded so as to carry off all rain water. As soon as possible after the crop is secured, the threshing commences, and requires a great number of hands to carry the sheaves to the machine, and take away the straw and chaff, and put up about 500 bushels of cleaned grain a day in the store house.

As soon as there is a stock on hand, the process of hulling commences. I will endeavor to describe this process particularly.

The mill is driven by tide water, and will hull about 500 bushels a tide, which rises here six feet; Col. C., however, intends to get a steam engine, so as to be able to run constantly. The rough rice is brought from the store house and emptied into a bin upon the lower floor, from which it is carried by elevators to the third story and passed through a large fanning mill; and then through a three-part screen, to separate the sand that is too heavy to be blown out, and divide the small rice from the large grain as much as possible, as it is important to have all of nearly the same size passing between the stones at the same time. From this screen, the rice falls to a pair of six-foot mill stones, which run just close enough together to rub off the hulls of the most of it. From here it is again elevated, and passed through another fan that blows off the hulls and spouts them out doors. Then it passes through another screen that

separates the grains that passed through the stones whole without being hulled, and the hulled grains, together with perhaps ten per cent. that will not hull, falls down to the mortars on the lower floor. These are twelve in number, holding five bushels each. The pestles are about ten feet long, shod with iron, and are lifted by cogs in a shaft, and let fall a couple of feet, striking some inches down into the grain in the mortar at every blow. This operation is continued about two hours, which reduces the unhulled grains that passed through the stones to powder, and also takes off the pellicle from the hulled grain. It pounds best, but breaks most in warm weather. When sufficiently pounded, the pestle is thrown out of gear and the mortar emptied and refilled from spouts, and the pounded rice again elevated to another screen that separates the flour, broken rice, and whole rice, and sends over the end some of the largest grains and hulls, which has to be screened again. From this screen, the broken rice falls into a fan to blow out the flour, and the whole rice into the brush or rubber that cleans off everything and gives the grain a polish; and from this, it falls into the casks, which hold about 600 lbs. each. A simple piece of machinery keeps the cask turning around while filling, and at every quarter round it is struck by a wooden mallet, which settles the grain and fills the cask to its utmost capacity.

It takes about 20 bushels of rough rice to make a barrel of 600 lbs. The weight of good rice is from 45 to 48 pounds to the bushel; and the proportion of good rice, broken rice, and flour, and value, may be understood from the following account of a parcel sent forward by Mr. Reed, from a neighboring plantation:—

2,150 bushels made 89 bbls., weighing	
54,222 lbs., which sold for 3c.,...	\$1,626.66
1 barrel given away, say 600 lbs.,...	18.00
1 barrel middling, 628 lbs. at 1½c.,.	10.20

\$1,654.86

4 barrels small or broken rice.

202 bushels of flour.

The charges on the lot for freight,
hulling and commissions,

305.34

Net proceeds, \$1,349.52

Or a fraction less than 65 cents per bushel, exclusive of the broken rice and flour. The first is just as valuable for food as the whole grain, and is used for feeding the people; and the flour is worth as much as corn meal for stock.

The average crop of rice upon the Cooper-River lands, may be set down at 40 bushels. Upon some small tracts, 90 bushels to the acre have been made.

Col. Carson's last crop was 800 bbls. which is about six and two thirds barrels to the hand, and 24 bushels to the acre. This, he says, is less than half a usual crop, owing to the dry season, which kept the river so salt that he could not flood the crop when most needed.

The average yield of corn he estimated at 15 bushels, oats 20 bushels, and sweet potatoes 100 bushels, to the acre. The corn ground is

"listed" in the winter; that is, all the stubble and trash hoed into the space between the rows and covered with earth. Upon this additional dirt is hoed, and the corn planted about the 20th of March till 20th of April, and thinned to one stalk, two and a half by five feet. Oats are planted in drills by hand in January and February, and cultivated with hoes. Sweet potatoes are planted from middle of March to middle of April, and by layers, (that is, cuts of vines,) until July. He usually plants about one fourth of his crop with seed and the balance with layers. Corn is ripe in August, and usually harvested in October. He aims to cultivate six acres of rice to the hand, and upland enough to furnish them all the corn and potatoes they can eat. Upon none of the rice plantations is it customary to give rations of meat; and it is alleged that the people are more healthy upon vegetable food.

Col. Carson made one year 45,000 bushels of rice with 120 hands, which is 375 bushels to the hand, and 75 bushels to the acre.

The estimated value of a rice plantation is from \$150 to \$200 an acre for the rice land, and nothing for the remainder; so that in purchasing Dean Hall, at the highest price, you would get the whole tract for about four dollars an acre, including a very large tide-water hulling mill, steam threshing mill, steam saw mill, a noble mansion, a very good lot of negro houses, overseer's house, barns, stables, store houses, shops, &c., enough to make up a town in California worth a million.

The rice lands were originally covered with cypress and cedar, and the amount of work required to clear and embank them, not only around the outside, but to divide into suitable tracts for flooding, and ditch them every hundred feet, and then to keep the ditches and banks in repair, is almost inconceivable.

As the flooding of the rice land keeps it in a state of constant fertility, all the straw can be used as manure upon the upland, and with a more rational system of cultivation, by the use of the plow, it might be kept in a state of great productivity.

One of the great drawbacks to all these beautiful places along Cooper River, is the necessity of leaving them every summer to seek a more healthy location. Col. Carson goes to Sullivan's Island, a spot noted in American history, where he keeps a house furnished and standing empty half the year; and while that is occupied, the one at the plantation is idle. The same difficulty affects nearly all the rice and sea-island cotton plantations in the lower part of the state. The whites cannot live upon them, while the negroes remain perfectly healthy. So that though their income may appear to be larger than in some other sections, their expenses are proportionably greater, and this should teach us all to be more content with our lot in life.

Col. Carson estimates his proper plantation expenses at \$5,000 a year; that is,

For clothing, taxes, and medicine,.....	\$3,000
Overseer's wages,	1,000

Engineer's wages,.....	\$300
Repairs of machinery and oil,.....	200
Iron, lumber, staves, and hoop poles,..	300
Sundry items,	200

This, of course, does not include anything for ordinary family expenses, which are no small item in a house, where, besides all the world of acquaintances, every respectable stranger finds a home and a most hearty welcome, from a most noble gentleman and lovely lady.

During my exceedingly pleasant visit here, I had the satisfaction of making the acquaintance of nearly all the gentlemen in the neighborhood. Upon the opposite side of the river, from Dean Hall, is the plantation of J. Withers Read, who has ponds of fresh water covering 100 acres of upland, which are held in reserve to water the rice fields when the river is too salt. He threshes his crop by horse power, and sends the grain to Charleston to be hulled, where there are several very large steam mills, though more perfect, yet upon the same principle as Col. Carson's. The toll is $7\frac{1}{2}$ per cent., and the mill keep the offal.

TO GUARD THE LUNGS WHILE THRESHING.

The following may be depended upon as a perfectly safe and convenient mode of guarding the lungs, while threshing, as I have tested it for several years, and never knew it to fail:—Take a piece of fine sponge, about two inches thick in the centre, and about four inches broad; cut out a little in the centre, so that it will fit the nose and mouth, leaving it about three fourths of an inch thick over the end of the nose and mouth; moisten it well and squeeze it out, so as to prevent its dripping; fasten a string to the outer edge of the sponge, on each side of the face, and tie it back of the head, and one can work in a perfect smother for hours, I might say days, without any of those disagreeable sensations that are always experienced without such precaution. This will not obstruct the breath one tenth part so much as a piece of gauze will when drawn over the face. I would rather give one dollar per day, for a good sponge, than to tend a threshing machine without it.

AN EXPERIENCED THRESHER.

RECIPE FOR SAUSAGES.—To 30 lbs. of meat, add 10 oz. of fine salt, 3 oz. of sage, 2 oz. of good, black pepper, and mix them well together. The sage should be well rubbed between the hands, or through a sieve, before using. After the ingredients are thoroughly incorporated, apply them to all parts of the meat, before chopping. If you have not a good sausage cutter, go and get one. Then you may depend upon having good sausages.

A LOVER OF GOOD SAUSAGES.

TO CURE THE SCRATCHES IN HORSES.—Wash the affected parts thoroughly with warm soap suds; rub them severely with a cob; and then apply beef brine. One application will usually effect a cure. If you will well rub the parts that are usually affected, every day, with a cob, you will seldom need do anything more. A FARMER.

TO A CONNECTICUT FARMER.

YOUR article in the January number of the *Agriculturist*, has just met my eye. I cannot turn to the article that has been the cause of your animadversions, for I am upon a small island, on the coast of South Carolina, and my trunks and books are in Charleston. But I suppose that I drew a picture, in my "flight," of some spots that you would prefer to keep hidden from the world. That was not my object. You seem yourself to think, that my pictures were fictitious. But I assure you that they are true ones. It is equally true, that I might have given "a different complexion" to them; and I knew the "right source" to inquire; and was "able to compare the past with the present;" for I was born among the rocks, in the most rocky part of Connecticut. But I did not design to show the bright side of the picture, nor did I show its darkest side. There is, and has been, ever since I knew the state, a miserable system of farming carried on there, that is wholly unworthy of the present age of improvement. There is a larger proportion of readers in this state, than, perhaps, in any other; but how many of them read agricultural books or papers? Do you teach agricultural chemistry in your common schools? Have you a state geologist, chemist, or public lecturer? Do you generally subsoil your clay soil, or underdrain your thousands of acres of cold, spongy side hills? Are there not thousands of "old-pond meadows" and swamps, yet undrained? Do not Connecticut farmers continue to barely scratch the surface with the plow? And do they practise the most improved scientific methods of making and using manure? Do they not still mow over five acres of ground for a ton of hay? And are there not hundreds of just such farms as the one I drew a picture of? Then wherein have I "done you injustice?" or made an "unwarranted attack upon you?"

You little knew me, if you supposed that I would make such an attack upon any portion of my country. I intended to tell my native state that she was asleep, and in my flight over my native hills, I endeavored to stir her up. Since writing that article, I have seen a whole county aroused to attend an agricultural fair, in one of the richest sections in the state. What aroused it? Was it to make a great show of stock, improved implements, &c., or to compete for premiums for the best systems of draining and cultivating the soil? Was it to witness a great plowing match and trial of skill, and to determine which was the best kind of plow? If so, it is wonderful that there were but four plows—and one of them furnished by the proprietor of the land, "just to help out." But there was a great crowd attending the fair. What brought them there? Why, to see Gen. Tom Thumb! It was not the spirit of agricultural improvement. If that prevails in Farmington. I am glad to hear it; it does not prevail universally. The people of the state need arousing; and could I succeed in awakening them, I should be willing to be called a few hard names, while they were rubbing their eyes; but when they get their open, so as to see that I am a son of

the same soil, and only anxious for their best interests, I hope they will no longer accuse me of doing them injustice, or making an unwarranted attack upon my own, my native land.

Upon the place where I am writing, there are 700 negroes, and two white men; and yet the state of culture here, might shame many a Connecticut farmer. It is a picture of order, neatness, comfort, and happiness. But of this, and Connecticut farming, more anon. Your true friend,

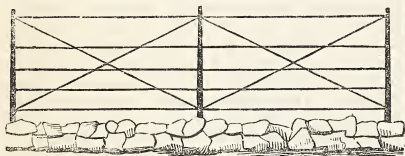
SOLON ROBINSON.

South Carolina, Jan. 27th, 1850.

WIRE FENCE.

At request, I send you a description of a wire fence we have been building, and the cost of the various items used in its construction.

The wire used was No. 9, weighing 1 lb. per rod. The posts are cast iron, 3 ft. 6 in. high, besides a dowel of 2½ in. in length, and 1½ in. in diameter, inserted in stone, and weighing about 11 lbs. each. We first built a wall, 3 ft. wide and 18 in. high, placing large stones for receiving the posts, at the distance of 12½ ft. This will guard against geese and swine, and attract the notice of larger animals, that they



WIRE FENCE.—FIG. 35.

may not run against it. Had not the stone been on the ground, we should not have made it quite so heavy.

As the fence separates a permanent meadow from the highway, we set our posts about six inches from the front of the wall. The form of post is, tapering to the top, flattened at the sides, and thinnest at the middle—designed to obtain the greatest strength of the iron used. [?] The distance of the first wire from the stone, is 4 in.; then a space of 6 in., then 7 in., then 9 in., and, finally, of 12 in.; the posts rising 4 in. above the top wire. The holes in the posts were not cast in, but drilled. Every other post, we braced with round, half-inch iron, one end clasping the post, 18 in. from the bottom, the other entering the same stone as the post, 18 in. from it. Midway between the posts, we placed others, of oval iron, ¾ in. in breadth, drilled, like the others, but not fastened to the stone.

We purchased unannealed wire, but were under the necessity of annealing it, before we could use it. This we did in a fire, in the open air; and one side of each coil became more pliable than the other, which made it troublesome in putting in. We introduced our wires, five in number, without much trouble, except from our movable posts; one person holding the coil, and turning it in his hands. I think the better way would be, to have a reel for this purpose, as the wire would come off more easily,

and get less crooked. At each end, we had strong, well-braced, wooden posts; and fastening the wire to one of them, we strained it tight at the other, by passing it through the post, and then through a cylinder of white oak, about 2 in. in diameter, and 12 in. in length, which we turned by a carriage wrench, fitted to one end, and an iron rod, put through a hole in the other; the rod being close to the side of the post, was made fast by a nail, to keep the wire straight.

In order to straighten the wire the whole length, we found it necessary, at the same time we strained at the end, to draw on it in various places, as the friction of the posts, and catching in some, would break one end before the other would be straightened. This we effected, by putting sticks through the joinings of the wire, and drawing by hand. After the horizontal wires were drawn tight, we put in No. 15 wire, passing diagonally from the top to the bottom of every post, and crossing in the centre. It may be woven in, in any desirable form. The whole is painted white, to protect it from the rust, improve its appearance, and attract the attention of cattle.

We have another short piece, which has no wall at the bottom, and is painted brown, which the cattle do not see; and they run into it, much to its injury. The length of this fence is 35 rods. The cost was as follows:—

180 lbs. No. 9 wire, at 6 cts.,.....	\$10.80
20 lbs. No. 15 wire, at 8 cts.,.....	1.60
46 cast-iron posts, 529 lbs. at 3 cts.,..	15.87
38 lbs. American iron, for braces and small posts, at 5 cts.,.....	1.90
Blacksmith's bill, for drilling posts, &c.,	3.83
Paint,.....	1.00
Labor at wall, &c. 30 days,.....	30.00
	\$65.00

being \$1.85 per rod.

Our experience alone, would enable us to construct another at less cost; and by bracing each post, they might be further apart, without any loss of strength. Many of the processes adopted by us, were not original; but as the building of wire fence is yet in its infancy, many parts of our plan may be worthy of adoption.

If any one wishes the fence invisible, let him set the stone for the posts in the ground, and paint the whole green or brown. A short piece of wire fence does not look well, but in our case, it has added so much to the beauty of the field enclosed by it, as to be noticed by every one who sees it.

T. S. GOLD.

West Cornwall, Ct., Jan. 25th, 1850.

To COOK A TOUGH FOWL.—When a fowl is plucked and drawn, joint it as for a pie. Stew it five hours in a close saucepan, with salt, mace, onions, or any other flavoring ingredients that may be approved. A clove of garlic may be added, where it is not utterly disliked. When tender, turn it out into a deep dish, so that the meat may be entirely covered with the liquor. Let it stand thus in its own jelly for a day or two; it may then be served in the shape of a curry, hash, or a pie.

REVIEW OF JANUARY NUMBER OF THE AGRICULTURIST.

BEFORE commencing my task of again reviewing, I beg to express my thanks to a kind Providence, for its watchful care over me, during a delightful voyage across the Atlantic and up the Mediterranean, of six months; and for having returned me, in renovated health, to the bosom of as happy a family as man, probably, was ever blessed with.

I have seen much to interest and instruct me, during my late absence; but I shall enter into no particulars at present, regarding my tour, nor shall I speak of it, except incidentally, and so far then, only, as it may be appropriate in my comments on the *Agriculturist*. I am not writing to gratify curiosity, but for the benefit of my readers—if so be, I happen to have any.

Of course, one of the very first things for me to run to, after my return, was my old friend and dear companion, the *Agriculturist*; but I am now so far behind hand in my reckoning, I must take a skip over all the numbers unreviewed, in the eighth volume, and yaw ship at once, and dash down, with all sails set, upon number one, of the ninth volume, which, I see, from the commencement of its sterling contents, is destined to be rather more than a nine-days' wonder, among the farming public. So much, gentle reader, for a preface—now to our subject.

To Our Readers.—Query. Is not everything in the paper to your readers? Or did you expect that they would read this article, because it contained so many home truths? You ought to have headed it "Unpalatable Facts," or "something to show how much they love ignorance."

It is truly astonishing, how much of this latter article some men can bear, and yet live. And the most surprising part of it is, that those who have the most, are continually making a show of it before men. It is very rare to see a learned man, who is not ready and anxious to learn more. The lawyer is ever searching into his books, and carefully examining every new case reported. The divine not only searches deep into the Book of books, but he scans the opinions of others for something new. The doctor is not content with what his father knew before him, but he is constantly prying into the secrets of nature, and reading new books and periodicals, wherein are recorded the results of other searchings after truth. Not so with the farmer. He draws his head into his shell of self-conceit, and replies, to your solicitations to read a work that records the enlightened practice and experiments of others, who are engaged in the same pursuit, that he now knows all he wants to know about farming. How should such a person know anything, unless he is taught, indeed? Yet, how are you to teach him, if he won't read? But, as the man said, when he was dunned to pay for his wife's coffin, "that's a very melancholy subject—let's drop it!"

A Good Temper Essential to Breeding Animals.—Yes, that is true. Particularly, if the animals are two-legged, and don't wear feathers—except borrowed ones. If I were about to select a wife,

good temper should be the *sine qua non*; and then, as I have the reputation of being a good-natured man, I should hope, if there happened to be a brood of young Reviewers, they would be good natured, too.

Sausage Cutter.—My dear good wife—dearer to me now than ever—declares, that she would not have one of these about the house; because, she says, they would cut up meat so fast, that if a "small dog," or, may be, a "singled cat," should happen to get its nose in, it would go through, and be made into sausage meat, before the machine could possibly be stopped. Of young cats and puppies being made into *ragoûts*, I could tell a droll story, that occurred to a fellow passenger, in one of the Mediterranean ports our steamer put into, during my late voyage; but I am afraid, if I began "spinning such yarns," an old sailor's fit would come over me, and I should never end. So I'll e'en stop before I do begin.

Our Next Volume, is the title to an article that promises well; but I certainly feel a little chagrined to think, that among the able writers mentioned as adding value to the *Agriculturist*, I am wholly forgotten. But I do not intend to be left out. I will be heard.

[We assure our excellent friend, Reviewer, that the omission here complained of, was entirely accidental; and if it will be any amend, or salvo to his wounded honor, he shall be mentioned with all due *eclat* in our next volume. In the meanwhile, let him please to consider himself our main stay and staff—yes, and the whole ship and cargo to boot, if he will.—Eps.]

Wetting Brick.—"Few people," &c. I beg your pardon, Messrs. Editors and Gentlemen of the Jury, there are a vast deal too many people in New York, constantly "wetting their brick;" yes, and then getting them inside their hats!

Advantages of Draining and Subsoil Plowing.—This is a subject that cannot be brought too often nor too forcibly to the notice of American farmers. And I am glad to see that this article is numbered one, which indicates a series to be given. Upon this subject, the farmers of the United States are yet in their infancy. The advantages of being perfectly able to command the water that falls upon the land, and carry it off, so as not to wash the surface into gullies, or carry off the most fertile portions of the soil, is less understood than almost any other branch of husbandry in this country. Many thousands of acres are annually destroyed, by washing off the face of side hills, which a very small amount of common sense, expended in "side-hill draining," would entirely obviate. Many other thousands of acres are lying dormant, or almost worthless, for want of underdraining; while thousands of other acres would be nearly doubled in productiveness, by the free use of the subsoil plow. But the grand difficulty in the way of improvement, is the low price of land in America. Rather than ditch and drain the old farm, it is got rid of, with as little feeling as a boy would part with an old top for a new one, and away goes the occupant, to the fertile prairie.

ries of Wisconsin or Texas. Oh, the beautiful draining and subsoil plowing, that I recently saw in England; and the water meadows, too; but it is useless for me to talk about them just now. All is, I intend to commence on my own good, old homestead, the moment spring opens; and then, reader, you shall see what an enlightened voyager will practise, before he cares to preach.

Sweet Indian Meal, can only be had from recently-ground corn, no matter how good the grain is, unless it be kiln, or, rather, steam dried. Corn meal is continually losing its sweetness, every hour after it is ground. The very best way to have sweet hommony, is to have a small, cast-iron mill, with which one person can grind enough for breakfast in fifteen minutes.

Shipping Corn to Europe, will never be successful, until the grain is prepared by some such apparatus as Safford's steam dryer. It is no wonder that the English people do not like corn bread, because it is almost impossible to send the grain across the ocean, without losing its original sweetness; besides, acquiring a taste that would entirely spoil it for bread, in this corn-eating country. But send it to them sweet, *grind it coarse*, and cook it right, and it will be as good as a Kentucky negro's hoe cake—and that is good enough for Queen Victoria. How I wished to hand her one, when at Windsor Castle, just to let her know how good it is. She would have eaten it, thanking Heaven for so good a gift; and straightway sent off a few millions of her starving subjects, to the fertile prairies of Brother Jonathan's big farm, where they could grow their own hog and hommony, and thank Heaven, also.

Wisconsin Farming.—Boy, bring the map. Let me see where this Jonah's gourd of a state is, that talks about exporting wheat in such quantities. Pshaw! this map won't do. Bring me one published this year. Ah! Wisconsin—a boundless wilderness, on the western shore of Lake Michigan, only a few years ago; now a flourishing state, full of very enterprising farmers, who are already exporting large quantities of wheat, and other products. There is still much good land there—very cheap; and no doubt, the exports will amount to millions, by the time the state is a quarter of a century old. Well, well—such is human progress, in America. Let's hear again from "Violet Grove;" which, by the way, is rather a sentimental name, got up, I fancy, by the writer's gentle spouse. Pray, my good sir, you seem a highly sensible fellow—cannot you change this for some sonorous, old Indian name?

Clod Crusher.—In what is this new implement better than a harrow or roller? [Try it, and then please to inform us yourself, good sir.—Eds.]

The Water Spaniel, takes up a little too much ground that might have been filled with

Dwarf Pears.—A very interesting article, and I presume, from my worthy friend Parsons, who always writes right to the point; and from his experience all his life among fruit trees, whatever he writes, is well worthy the attention of all the readers of the *Agriculturist*.

Connecticut Farming.—I thought when I read these comments upon the farming of old Con-

necticut, that our friend Robinson was treading upon somebody's toes, who might wince somewhat under it. Now, I must confess, that I felt my own pinched a little; but then I reflected that he was only picking out some of the worst spots, probably to show by the way of contrast, so that we might do better for the future; and to show us Yankees, who think ourselves so very superior, that all the bad farming of the United States is not confined to the western nor southern ones. Although I have never had the good luck to meet this indefatigable traveller, I frequently read his writings with pleasure; and so I was willing to allow him to have his fling at us, without feeling as "A Connecticut Farmer" does, that "Mr. Robinson has done us injustice." I have no doubt but that article will do us good. In fact, it has already had one good effect upon your correspondent—it has set him to thinking, inquiring, and writing.

Corn from the Sandy Plains of Long Island.—I really hope that this little experiment will be followed up, till it is proved that these long-neglected lands are capable of producing remunerating crops.

To Take the Frost out of Roots.—Fingers and toes should have been included.

Massachusetts Swamp Draining.—This is one of those common-sense, practical articles, that is suited to all latitudes. It is no wonder, after becoming acquainted with such results as are detailed here, that our travelling friend should have made a strong article upon the "old pond meadows," which drew down the animadversions of the "Connecticut Farmer" just now noted.

The Quantity of Seed Wheat per Acre, is given as five pecks, which, I insist upon, is too small. Why, see how much the English sow, two to four bushels. If every grain would grow, it might answer for drilled wheat; but I have no doubt that eight pecks would be better than five. It is a fact that should always be borne in mind, that machine-threshed wheat will not all grow, by at least 10 per cent.

Georgia Farming.—This correspondent is tickled to see us get a lashing; but just wait till Mr. Robinson gives you a scorching, my good fellow. Now I don't mind the lashing nor the way it effects "our folks," but "shiver my timbers," as an old sailor says, if I am going to stand by and see this Georgian laughing at the "licking" we Yankees get, if we do deserve it. And so Mr. Georgian, "you trust a better day is dawning." Well, so do I, and it is high time; you have had a long night, and a very dark one, too, or you would have seen some of those "cheap water powers," before now. But if it is dawn with you now, I trust that sunrise will follow, and then, if you go whistling to your work, Yankee fashion, you need not wait for capitalists from our section to come and build cotton factories for you, for you will do it yourselves. I wish, in mercy, that you would send us a pocketful of that warm weather you speak of, and then my ink would not freeze in my pen while writing, as it does just now, in the valley. "Please to let me hear from you" again.

Wire Fences.—Capital article this. Look at it again—everybody and his wife. Do not let the cattle destroy your shrubbery, when you can so easily prevent it, without disfiguring the town by an unsightly fence. Ah, how cheap we could fence along the roads to keep out passing cattle, if the hoggish custom of letting swine run at large, were out of fashion.

Turkeys in Tennessee.—Well, that does beat all natur', that's a fact. What a long roost it would make, if we had only one of these flocks. It makes my mouth water to think of it. Roast turkeys by the wholesale!

An Italian Villa.—Ah, have I not seen some beautiful ones since I have been gone; and such admirable grounds, too, about them, and trees, and shrubbery, and fountains, and statuary? But time would fail me to tell of all these things; and besides, all the old farmers—at least all in my neighborhood—would think such "nonsense," as they term it, quite out of place in this paper.

What does it Cost to Grow an Acre of Potatoes?—This is a valuable table, but it ought to have stated that they were Irish, and not sweet potatoes; as at the south, the name of "potatoes" alone means sweet ones.

Mr. Robinson's Tour—Estates of Messrs. Burghins.—I have read this article with great interest, because I knew these young men in times past; and I said to myself, if these city-bred gentlemen make good planters, then it is not necessary for a man to grow up upon a farm, to make a good cultivator. Only let him have good common sense, and study into the theory, and he will soon learn the practical parts of farming. I am right glad to hear that they succeed, and hope others in the "Old North," as this state is called at the south, will follow their good example. Rip Van Winkle is really waked up in the Carolinas.

Cisterns for Horse and Cattle Yards.—Readers in all the western states should particularly notice this article.

The Spanish Fowl.—Well, if you have no "experience in this kind of fowl," I have; and the "objection" that your friends make to them, is good. Their combs and wattles freeze badly, in this northern climate; but it is a superb bird for the south. By the way, I have just got hold of Mr. Browne's book, which the publisher was so kind as to send me, as a New-Year's present. It is a good work, and I hope it will have a large sale. This is all the puff I am going to give it.

Speaking of poultry, allow me to add, that I see the Boston folks are getting very enthusiastic, to say the least of it, on this subject. Now, with all their "notions," if they don't produce a great deal of *notional* humbug, before they get through, then I shall be greatly mistaken. Here I have lying before me, one of their late agricultural papers, with a Shanghai cock, standing his feet on the ground, and stretching his head twelve inches or more above the top of a barrel! In the name of common sense, if the thing be not a caricature, what do people, in this cold climate, want to do with such great, coarse, feather-legged, overgrown, Southern-India birds?

Better stick to fine points and a medium size, my hearties. But every dog must have its day, and every "notion" its run. Perhaps they will get cocks—I beg pardon—roosters, *cockrels*, or, as Sergeant Teltrue, in his mock, affected modesty, quizzingly calls them, "crowing biddies;" I say, perhaps they will get birds, by and by, as large as I once recollect, in a voyage to Stamboul, (Constantinople,) a jolly old Turk and fellow passenger told me Mahomet found, in his nocturnal visit to the second heaven. The said cock, or *rooster*, which he found there, was of brilliant white, and so tall, that it took a *thousand days' journey* to travel from his great toe up to his crest!! It was his duty to salute the great Allah, every morning, with his melodious crowing, which echoed all over the silver dome of his resplendent domicile, and rebounded against the stars, suspended in golden chains from the lofty arch above; the tuneful strain awaking the numerous inhabitants dwelling here, to their daily, gladsome employments. Then the fat, jolly old fellow, sitting cross-legged on his mat, on the deck of the ship, would give a loud chuckle, flap his arms, encased in the broad sleeves of a flowing dress, as if they were a pair of wings, and shout his "Allah il Allah"—God is God, and Mahomet is his prophet. This is a dull story to tell; but I wish the Boston folks could once hear the waggish old Turk repeat it, and see the comical gestures that accompanied it. I fancy they would find it a cooler for the hot breeze they seem to be getting up just now, to thaw out their ice-bound region, and gull the foolish gullible. I hope there ain't no wooden nutmegs brewin' there; nor punkins bein' turned into brass kittles—nor nothin'!

Pruning.—I must have my hand on some of those implements; for, I declare, my trees and shrubbery don't look quite so trim to me as they used to. Perhaps the reason is, my late rambles among the parks and gardens of Europe, have somewhat refined my eye in these matters. Expect a call from me very soon, at your warehouse, Messrs. Editors.

Chamber Birds.—Excuse me, ladies; I have talked so long to the gentlemen, that I must be off, now, though I would gladly stop and discuss Canaries with you—more especially, as I am just from the beautiful islands of their native home. But I must decline this, and *The Flower Pots*, and even that luscious beverage, I see you have so temptingly set out for my further detention in your charming society, namely, *Beef Tea*; for my dear wife and daughters have just made their entry to the study, and insist upon my dropping the pen for the evening, and that we adjourn to a cup of genuine black tea; for they look upon all other kinds as only colored and perfumed up to order, by the Chinese. In this "notion," I heartily agree with them; for I know this to be a fact. Jack Chinaman and I, are old acquaintances—the cunning fellow. He drinks black tea simply, for he knows it to be the only kind that is not stewed and drugged. He leaves all else, to the *outside barbarians*—believe me.

REVIEWER.

Foreign Agricultural News.

We are in receipt of our foreign journals, per steamer Europa, to 26th January.

MARKETS.—*Ashes*, very dull. *Cotton*, an advance of $\frac{1}{2}d.$ to $\frac{3}{4}d.$ per lb., and an active market. About 30,000 bales changed hands on speculation, the day before the steamer sailed. *Provisions*, an increased demand with slightly better prices. *Wheat and Flour*, lower. *Corn* 1s. to 2s. higher. *Lard*, an improvement with extensive sales. *Rice and Tallow*, on the rise. *Wool*, the little on hand is held at an advance. The news on the whole is highly favorable to American products.

Money still continues very plenty.

The Way Plants Receive Ammonia.—Plants absorb the carbonate of ammonia, both by their leaves and roots, but especially by the latter, to which it is conveyed by manure or dissolved in water.—*Agricultural Gazette*.

Conifers from the West Coast of North America.—A plan is proposed in Scotland, for obtaining seeds of rare conifers from the northwest coast, by means of a special subscription for that purpose. The projectors of the scheme are George W. Patton and David Smith, Esqrs., of Edinburgh.

Durability of Zinc.—In 1830, I put a cistern, lined with zinc, in a forcing house, in which the water was heated during the greater half of every year, and in 1845 it was perfectly good, and serviceable as ever, and I believe it continues so to the present time.—*Correspondent in Gard. Chron.*

Cause of Discolored Yolks in Hen's Eggs.—A correspondent in the London Agricultural Gazette, in answer to a query in regard to discolored yolks in eggs, says; "I beg to state that a fowl of mine laid about eight eggs of the same description, and I ascertained that she had been kicked, and the yolks in the egg bag injured thereby—a practice not at all uncommon among servants when the poultry annoy them."

Death of Mr. Loddiges.—We regret to announce the decease, on the 28th ult., of Mr. William Loddiges, after an illness of three weeks. This gentleman has long been known as one of the most persevering cultivators of his age, and a genuine lover of plants for their own sake. With him has gone the last of the old firm of Conrad Loddiges and Sons. The business now rests in the hands of, and will, we believe, be carried on, by his nephew, Mr. Conrad Loddiges.—*Gard. Chron.*

To Get Rid of Grain Weevils.—Agriculturists, who wish to get rid of weevils, have nothing to do but, as soon as he is aware of their presence, to pitch the surface of some old boards and place them in his granaries; the pitch must of course be renewed several times in the course of the year, in order to keep the insects away. The mere fumes of the pitch is disagreeable to the weevils, and will prove fatal if long inhaled.—*English Paper*.

Destruction of Aviary Birds by Rats.—Mr. William Kidd, of Hammersmith, near London, recently lost by rats, 355 choice birds in his aviary, a collection noted as one of the most select of its kind extant, comprising specimens of nearly every chorister of the English forests, as well as a large number of foreign song birds. The rats entered the aviary by gnawing through the floor, and, from the height of the floor boards above the ground, Mr. Kidd conjectures that the cunning rascals carried on their operations while mounted on the backs of one another.

To Drive away Rats.—This may be done by stuffing their holes after the following manner, which will banish them away so that they will not return while the taste or smell remains:—Take one pound of common

tar, half an ounce of pearlsh, and as much oil of vitriol as will ferment a handful of common salt; mix them all together, spread the mixture thick on brown paper, and lay a piece in the bottom of the holes for them to walk on; then stuff some into the holes and fill them up with lime. Or another way: get a paper bagful of human hair, from a barber's shop, and stuff the rat holes with it—they will never appear there again.—*Gard. Chron.*

Dry Process of Preparing Flax.—In the year 1810, a new method of dressing flax was patented, by which the woody matter was separated from the fibre without steeping it, by means of mechanical action, and then the flax was bleached by simply washing it in warm water. It would appear that the coloring matter is not chemically combined with the fibrous matter, while the plant is vegetating, or after it is pulled, but that the chemical combination takes place while the plant is steeped in water.

The object of this steeping is to induce a fermentation, which loosens and destroys a cement which binds the fibres of flax to each other and to the wood. The fermentation weakens considerably the strength of the flax fibres, and even destroys many of them. This dry preparation, therefore, if it be practicable on a large scale, would be a prodigious improvement. It would render the flax fibres much stronger, it would increase their quantity, and it would save the expense of the materials employed in bleaching the linen.—*Agricultural Gazette*.

A New Feature in Agricultural Education.—The secretary of the Agricultural Improvement Society of Ireland, lately presented a draft of instructions for the guidance and direction of the teachers of their several districts, and the course the different local bodies should pursue to secure due attention to their duties. The following are some of the leading subjects to which the instructors should direct the farmers' attention:—The necessity of turning up and digging the tillage land deeply and well in winter, in order to expose it to the effects of the frosts, and to prepare it for cultivation in spring. The advantage of removing surface and other water, levelling all unnecessary banks and ditches, and spreading their contents, either in compost or otherwise, upon the land. The profit to be derived from the preparation of manures of every description, by collecting weeds, scouring ditches, and accumulating bog mold, sand, seaweed, or dung in heaps, and in proper positions, for easy distribution in the spring.

Effect of London Sewer Water on Crops.—From the evidence lately given before the directors of the "Metropolitan Sewerage Manure Company," the general results of the experiments of the market gardeners as to the effect of sewerage on their crops, was as follows:—

1. Growth is more rapid and healthy after the application of sewer water.
2. Vegetables increase in size.
3. The yield of raspberry bushes is much improved.
4. It lessens blight.
5. Little or no offensive smell is produced from its application.

From these general statements the report proceeds to particulars, and similar evidence is brought forward in proof of the advantage of sewer water to potatoes, radishes, vegetable marrow, onions, cabbages, and broccoli, seakale, French beans, turnips, carrots, strawberries, raspberries, cucumbers, celery, rhubarb, and peas. In beets, the plants are reported by Mr. Miller to have considerable increase in size, but nothing is said of the roots; and Mr. Crouch gives evidence of the goodness of broad beans *when in blossom*, but he says nothing of the crop *in pod*. The advantage to currants, gooseberries, and rose trees, is doubtfully reported on.

Editors' Table.

TO CORRESPONDENTS.—Whoever writes us a good article of a page or more in length, shall be entitled to the *Agriculturist* one year gratis. All articles required to be inserted in a particular number, should be sent one month in advance.

TO OUR READERS.—You will find this a very valuable number, and we hope you will peruse it with care, and remember its suggestions. We desire to call particular attention to Dr. Antisell's article on "Agricultural Geology." This is a subject which has scarce ever been touched upon by any writer, in a popular manner. It is the commencement of a series, which will be continued probably throughout the year. The articles will be written in as plain and familiar language as it is possible to use on this subject; and we trust, that by the time the writer has finished them, you will see the importance of a knowledge to the farmer of the general principles of geology. Reviewer, or, as we now call him, the "Captain," is in port again, racy and spirited as ever. His present article reminds us of a new-rigged and fresh-painted ship, all ready for sea again; and we hope he will make many a monthly voyage with us. His larder seems to be amply provided, and assuredly, he has a first-rate cook on board. He spices things about right. Waiter, ring the bell! Ladies and gentlemen, supper is ready!

SOLON ROBINSON.—The last we heard from Mr. R., he was on his return from the south. His rout home will be through the south part of North Carolina, and Virginia, and along the Eastern Shore, Delaware, Pennsylvania, and New Jersey, thus occupying the months of March and April. He has been kindly received and hospitably entertained in his various peregrinations, for which we beg to express our obligations. We sincerely hope his extended travels may prove beneficial to the cause of improved agriculture.

AGENCIES.—Mr. A. Sherman is authorised to act as agent for the *Agriculturist*, and obtain subscriptions; he is also empowered to take orders for the *Agricultural* warehouse of A. B. Allen & Co. All monies paid to him for these objects, will be the same as if paid to ourselves.

Mr. Sherman has acted more or less as agent for us at the north, for several years; he will now turn his attention to the south, for a short time. We recommend him particularly to our southern friends, and hope that his tour among them will be for mutual advantage.

GIVE CREDIT.—The North-Carolina Farmer copied six articles into his January number, from the *Agriculturist*, without credit. If we notice a continuation of this, we shall characterise it as it deserves.

EXPORT OF FLOUR.—The following table shows the destination of flour exported from the United States for the fiscal year:—

Destination.	1840.	1846.	1847.	1848.	1849.
England,.....	620,128	1,015,144	2,457,076	958,744	953,815
Gibraltar,.....	12,891	7,342	23,974	6,038	6,262
British E. Indies, 4,565	3,356	7,358	5,091	791	
" W. " 232,339	292,715	274,275	228,216	307,576	
" Am. Col. 432,356	201,091	272,299	174,206	214,018	
France,.....	74,416	9,138	612,814	28,895	
Fr.W. Indies,....	10,491	19,632	25,414	21,569	5,554
Hav. U.	28,734	49,997	40,257	28,309	10,903
Cuba,.....	68,818	13,831	49,446	29,872	7,154
Sp. W. Indies,....	20,906	10,893	17,770	14,846	6,429
Mexico,.....	15,326	15,902	5,928	12,070	11,633
Venezuela,.....	28,707	35,670	37,604	28,446	29,181
Brazil,.....	197,823	376,460	254,309	274,816	314,808
Other places,....	144,142	225,405	303,371	190,865	139,865
Total bbls.,.....	1,893,182	2,229,476	4,382,496	2,519,393	2,108,013
Value,.....	\$10,355,000	11,668,000	26,133,811	13,194,109	13,257,309

CHINA TREE CORN.—Several of our friends, particularly at the south, inform us, that they find this a most

valuable variety to cultivate for fodder; and that it is a better yielder in grain than their own varieties. They plant it from March till June.

It will be recollected, that about 15 years ago, this corn got an enormous amount of puffing, and was sold at the extravagant price of 25 cents per ear. The public were pretty well gulled at the time, and we need not add, greatly disappointed in its produce. It is not certain to ripen north of latitude 41°, except in favorable situations and seasons.

THE RURAL NEW-YORKER.—This is a handsome weekly folio, of eight pages, at \$2 a year, published at Rochester by D. D. T. Moore, late of the Genesee Farmer. It is edited by an association of gentlemen. Three pages are devoted to Agriculture, Horticulture, and Domestic Economy; one to Mechanic Arts and Sciences; one to Education; and three to the News of the day, Literature, and Advertisements. We are thus particular in stating the arrangement of this new weekly, for we think it a *model paper* for the farmer's family, and of a kind much more likely to be generally patronised, than those *purely agricultural*. The New-England weekly papers, conducted in this style, pay much better than those strictly agricultural, and if we were to start a periodical again, it would be in imitation of the Rural New-Yorker.

PORK PACKING IN THE WEST.—The Cincinnati Gazette of the 19th instant, has the following items:—

Hogs slaughtered and cut at Cincinnati and vicinity, this season, according to present figures,.....	380,555
At Louisville,.....	184,000
At Chillicothe,.....	32,000
At Hamilton, according to the Intelligencer,.....	15,000
At Evansville, Ia.,.....	12,830
At Lafayette,.....	40,000
At Terre Haute,.....	65,000
At Vincennes,.....	15,000
At Clinton,.....	14,000
At other points in the Wabash Valley, (Attica 8,000, Williamsport 6,000, Covington 3,500, Perryville 5,000, Eugene 7,000, Newport 3,500, Loganport 5,000, Delphi 5,000,).....	43,300

A TREATISE ON MILCH COWS. By John S. Skinner. Price 37½ cts. This is a pamphlet of 88 pages, made up from various articles, heretofore published in this country and Europe. That part of it containing the *discoveries* of Guenon, and before published in the Farmer's Library, is of most value. We have often been asked our opinion of these "discoveries," and now reply, that after considerable examination by those friends in whose judgment we can most rely, and no little observation on our own part, we have come to the conclusion, that the marks which characterise the Flanders cow in Table 1., Class 1., and Order 1st., may, like the large, jagged milk veins in the American cow, be generally considered as an evidence that the calf which shows them, will, with proper care and attention, make a great milker; and that the cow which has them, is a great milker in her season, unless some accident or mismanagement has befallen her. As for the residue of the "discoveries" and minute portrayings of Guenon, we shall want a little more experience in them, before saying we have any great confidence in their infallibility. We think, however, he is altogether too enthusiastic; and, like most other discoverers, claims too much. We have seen many a good milker, which showed neither the escutcheon of the Flanders cow, nor the large milk veins of the American; and, in making our selections, such as did not exhibit these marks we should not reject, if possessed of all other good points, till they were fully tried, in regard to their milking qualities.

Review of the Market.

PRICES CURRENT IN NEW YORK, FEBRUARY 13, 1850.

ASHES, Pot.	100 lbs.	\$6.70	@	\$6.75
Pearl.	" do.	6.06	"	6.12
BALE ROPE.	" lb.	10	"	11
BARK, Quercitron.	" ton.	37.00	"	38.00
BEANS, White.	" bushel.	7.5	"	1.25
BEE-SWAX, American, Yellow.	" lb.	19	"	23
BOLT ROPE.	" lb.	10	"	11
BONES, Ground.	" bushel.	40	"	55
BRISTLES, American.	" lb.	25	"	65
BUTTER, Table.	" "	15	"	25
Shipping.	" "	09	"	15
CANDLES, Mould, Tallow.	" "	10	"	13
Sperm.	" "	25	"	47
Stearine.	" "	25	"	30
CHEESE.	" "	05	"	10
COAL, Anthracite.	2,000 lbs.	5.00	"	6.00
CORDAGE, American.	" lb.	11	"	13
COTTON.	" "	10	"	13
COTTON BAGGING, Am. hemp.	" yard.	15	"	16
FEATHERS.	" lb.	38	"	40
FLAX, American.	" lb.	09	"	09
FLOUR, Ordinary.	" bbl.	4.00	"	5.25
Fancy.	" "	5.50	"	6.50
Richmond City Mills.	" "	6.50	"	6.75
Buckwheat.	" "	—	"	—
Rye.	" "	3.00	"	3.12
GRAIN—Wheat, Western.	" bushel.	95	"	1.28
" Red and Mixed.	" "	80	"	1.15
Rye.	" "	61	"	63
Corn, Northern.	" "	58	"	63
" Southern.	" "	55	"	61
Barley.	" "	64	"	69
Oats.	" "	38	"	45
GUANO, Peruvian.	2,000 lbs.	45.00	"	50.00
Palagonian.	" do.	34.00	"	35.00
HAY, in Bales.	" 100 lbs.	56	"	63
HEMP, Russia, Clean.	" ton.	195.00	"	200.00
American, Water-rotted.	" "	160.00	"	200.00
" Dew-rotted.	" "	140.00	"	175.00
HIDES, Dry Southern.	" "	08½	"	09½
HOPS.	" lb.	06	"	16
HORNS.	" 100.	2.00	"	10.00
LEAD, Pig.	" 100 lbs.	4.45	"	4.50
Pipes for Pumps, &c.	" lb.	05	"	07
MEAL, Corn.	" bbl.	2.87	"	3.12
" Corn.	" hhd.	14.00	"	14.12
MOLASSES, New-Orleans.	" gallon.	25	"	30
MUSTARD, American.	" lb.	16	"	31
NAVAL STORES—Tar.	" bbl.	1.62	"	1.88
Pitch.	" "	1.25	"	1.75
Rosin.	" "	1.00	"	1.30
Turpentine.	" "	2.44	"	2.75
Spirits of Turpentine.	" gallon.	32	"	34
OIL, Linseed, American.	" "	90	"	93
Castor.	" "	1.75	"	2.00
Lard.	" "	60	"	70
OIL CAKE.	" 100 lbs.	1.25	"	1.50
PEAS, Field.	" bushel.	7.5	"	1.25
Black-Eyed.	" 2	1.37	"	1.50
PLASTER OF PARIS.	" ton.	2.00	"	2.75
Ground, in barrels of 300 lbs.	" "	1.12	"	1.25
PROVISIONS—Beef, Mess.	" bbl.	8.50	"	11.00
" Prime.	" "	5.75	"	8.00
" Smoked.	" lb.	06	"	12
" Rounds, in Pickle.	" "	04	"	06
Pork, Mess.	" bbl.	10.00	"	12.00
" Prime.	" "	6.50	"	10.00
Lard.	" lb.	06	"	07
Bacon Sides, Smoked.	" "	03	"	04½
" in Pickle.	" "	03	"	04
Hams, Smoked.	" "	05	"	09
" Pickled.	" "	04	"	07
Shoulders, Smoked.	" "	04	"	06
" Pickled.	" "	03	"	05
RICE.	" 100 lbs.	2.25	"	3.62
SALT.	" sack.	95	"	1.50
Common.	" bushel.	20	"	35
SEEDS—Clover.	" lb.	06	"	08
Timothy.	" bushel.	2.75	"	3.50
Flax, Clean.	" "	1.75	"	1.80
" Rough.	" "	1.70	"	1.75
SODA, Ash, (80 per cent. soda).	" lb.	03	"	—
Sulphate Soda, Ground.	" "	01	"	—
SUGAR, New-Orleans.	" "	04	"	06
SUMACH, American.	" ton.	35.00	"	37.00
TALLOW.	" lb.	07	"	08
TOBACCO.	" "	03	"	10
WHISKEY, American.	" gallon.	23	"	24
WOOLS, Saxony.	" lb.	40	"	60
Merino.	" "	35	"	40
Grade Merino.	" "	30	"	35
Common.	" "	20	"	30

NEW YORK CATTLE MARKET.

At Market.—1,500 Beeves, (500 southern, the remainder from this state and the east,) 50 Cows and Calves, and 5,000 Sheep and Lambs.

Beef Cattle.—The market, since our last, has been without much animation; prices, however, keep firm, for the better qualities, which we continue to quote at \$8; the range is from that down to \$5.50. At the close, there was not much spirit shown. About 100 left over.

Cows and Calves.—Dull of sale; prices ranged from \$20 @ \$40. Left over, 15.

Sheep and Lambs were in fair demand; sales at from \$1.75 @ \$5.50. Unsold, 500.

REMARKS.—No change worthy of note.

The Weather has been uncommonly mild the past month. The *quid* nurses who prophesied a severe winter, have been mistaken for once, as it has been quite the contrary.

TO CORRESPONDENTS.—Communications have been received from D. H. Ellis, a Virginian. S. T. C., Con Amore, G., M. H. Morris, N. Longworth, C. S. W., John Wilkinson, S. R. G., Linus Cone, R. S., W. B. Waldo, Granite, A Farmer, S. S., L. Durand, J. T. Crandall, Levi Bartlett, Amanda, R. S. Borden, A. V. Ellis, Joseph Wimsatt, D. E. Gardner, A Book Farmer, and John G. Chambers.

ACKNOWLEDGEMENTS.—Address delivered at the N. Y. State Fair, at Syracuse, in September last, by Professor F. W. Johnston, of England; Address delivered before the Hampshire, Franklin, and Hamden Agricultural Society, at Northampton, Mass., in September, 1849, by Professor J. P. Norton, of Yale College; Constitution, List of Officers, &c., of the Richmond-County, (N. Y.), Agricultural Society; Proceedings of the North-American Pomological Convention, held at Syracuse in September last; Transactions of the Essex-County, (Mass.), Agricultural Society.

ANNUAL MEETING OF THE N. Y. STATE SOCIETY.—From a press of matter, we are compelled to postpone a notice of the Annual Meeting of the New-York State Agricultural Society, which will appear in our April number.

THE AMERICAN POULTRY YAC;.

Comprising the Origin, History, and Description of the Different Breeds of Domestic Poultry; with Complete Directions for their Breeding, Crossing, Rearing, Fattening, and Preparation for Market; including Specific Directions for Caponising Fowls, and for the Treatment of the Principal Diseases to which they are subject; drawn from Authentic Sources and Personal Observation; Illustrated by Numerous Engravings. By D. J. BROWN, Author of the *Sylvia Americana*. With an Appendix, embracing the Comparative Merits of Different Breeds of Fowls, by SAMUEL ALLEN. Price \$1, in cloth—75 cts, with paper covers.

"We apprehend that this work is unique in character. We remember none so complete nor so practical. It describes all the various breeds of domestic poultry known in this country, and gives ample directions for their breeding, rearing, fattening, and preparation for market. The appendix, by Mr. Allen, a practical man, is scarcely less valuable than the main body of the book. The wood cuts are numerous and faithful."—*N. Y. Com. Advertiser*.

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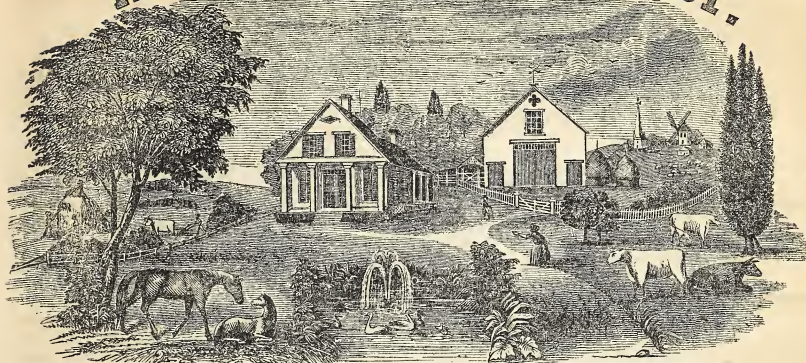
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AMERICAN AGRICULTURIST.



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VOL. IX.

NEW YORK, APRIL, 1850.

NO. IV.

A. B. ALLEN & R. L. ALLEN, *Editors.*

C. M. SAXTON, *Publisher, 121 Fulton Street.*

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AND

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N. B. S. B. Parsons will be found every Saturday during the month of April at the Agricultural Warehouse of A. B. Allen & Co., 189 Water st. N. Y., for the transaction of business.

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SOLON ROBINSON.

A VALUABLE FARM AT AUCTION.—The place on which I reside, (if not before sold,) will be disposed of to the highest bidder, at 10 o'clock A. M., on the 7th of March next, on the premises, on Karitan Bay, South-Amboy Township, Middlesex county, N. J., together with all the Stock, Farming implements of the best sort, and the Household Furniture, substantial and ornamental.

The sale will be peremptory, and on the most easy and accommodating terms.

The farm is beautifully situated, in a very high state of cultivation, and the improvements are of the most substantial and useful character. There is fine fishing, shooting, and sailing, on an extensive bay in sight of the ocean.

The farm can be seen at any time, and can be approached through South Amboy, or Middletown Pt., from both which places it is equi-distant. Apply to

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THE TRAVELLER.—No. 1.

UNDER this head, I propose to give a variety of little items, picked up upon my travels through the United States.

First, then, I left New York, November 8th, 1849, on the "Frankfort," a large, noble steamer, employed in the immense freighting business between New York and Philadelphia, by the railroad from South Amboy, which landed my carriage and horses at that place in two hours, against a heavy wind and tide. How different was the passage over this 30 miles of water 20 years ago. The village here has been built for the accommodation of men engaged upon the railroad. On the hill above, is the summer residence of Mr. John C. Stevens, where he has about 70 acres of land, which he has transformed from barren sands to fruitful fields; an example that might well be followed by a good many others in New Jersey.

American Pottery.—A mile further along the shore, is the pottery of Mr. Cadmus, where every variety of crockery known as "cane-colored ware," is manufactured in a very neat style, from clay found in the immediate vicinity. I noticed among many other handsome articles, some spittoons, ornamented with vines and bunches of grapes, in raised work. These might be called parlor ornaments, provided they were not defiled with tobacco spittle. Designs of agricultural products or implements, would make far more sensible ornaments for such ware, than the miserable, unmeaning daubs often seen upon articles of every-day use in farm houses.

Potter's Clay.—About two miles along the shore from the railroad wharf, is one of the most valuable and longest-worked clay banks in the country, formerly owned by the late Gen. Morgan, and now by his son, Col. Charles Morgan, who also has a well-improved farm of rich soil, part of which was once blowing sand. The fertility of Col. Morgan's place has been brought to its present state by salt-marsh mud, and leached ashes; the latter obtained from Burlington, Vermont, in vessels that came for clay, which is also taken to points along both the Northern, and Erie Canal, and eastward as far as Maine. The price of the clay at the pits, is about ten cents a bushel, delivered on board vessels. Some 30 men, and several ox and mule teams, are constantly employed. The deposit, where the pit is now open, is 30 feet thick, with a superincumbent mass of sand of equal thickness. The earth is removed in railroad cars and tipped into the water, and carried off by the surf. The pits are then dug down some 40 feet square, and the clay hoisted out in a tub by a mule, and carried off in carts and deposited in heaps, from whence it is again taken in ox carts along side of vessels at low water. Many acres have thus been dug over, and an almost inconceivable quantity of clay taken out; and the demand is still increasing.

Leached Ashes, used by Col. Morgan, as a fertiliser, cost 12½ cts. a bushel. Would not guano be cheaper? I think it would. Col. M. has embanked and ditched 150 acres of salt marsh,

which he intends to plow and plant next year. Part of his land is so full of shells, from the remains of Indian oystering, as to be unproductive. What application is best for this land? [Cast away the shells from the surface, and spread them on land where shells do not exist; and cart back earth and vegetable matter to the place from which the shells were taken away. By this means, a rich soil will be obtained in both situations.—Eps.] It is sandy and gravelly. I have recommended clay and muck. Here there are some very large, old apple trees; and down by the creek, there is a dwelling house, which carries one's mind back to the days when the Indian hunted wild game in the hills around, and white men little dreamed of locomotives and steamboats, and cast-iron plows. It is upwards of a century old.

Plum Trees, when attacked by the black-wart blight, Col. M. cuts off, and engrafts upon the stumps apricots or peaches, which grow well. There is a very large salt marsh upon the same stream where Col. M. has reclaimed his, that is worth about \$4 an acre, which, if reclaimed at a cost of not more, probably, than \$25 an acre, would then be worth \$100.

Planting Oysters.—This is carried on in this vicinity to a greater extent than planting corn. It is all very well, but did any body ever grow rich at it? [Yes. It is a very profitable business in this vicinity.—Eps.] Oysters are brought here to fatten, from Virginia and Maryland. From South Amboy, along the old turnpike to Spotswood, ten miles, the land is very sandy, and covered with a scanty growth of wood, with few inhabitants.

Use of Lime in Jersey.—The farm of Peter C. Stryker is worthy of notice, as a good illustration of what lime has done in only two years, towards renovating a worn-out tract of sandy land, by which it is made to produce luxuriant clover and very handsome wheat, where the former owner scarcely made hay and straw enough to feed a small stock, but where now more hay than is needed has been made the last year. Of course, manure is not neglected. Mr. S. has only 150 acres; yet thinks he has about twice as much as he ought to own, to cultivate profitably.

The Norman Horses.—Mr. Stryker thinks the kind introduced by Mr. Edmund Harris, of this state, are the best farm horses ever brought into the country.

I observe with pleasure, that the people at Spotswood are so far advanced in civilisation as to exclude swine from the privilege, long enjoyed by the family, of running in the streets, and consequently obliging everybody to pay a double portion of the enormous fence tax of the United States. Well, we all learn wisdom by slow degrees.

Visit to James Buckelew.—Nov. 12th, I spent with one of the most remarkable men in New Jersey—one who is more worthy of honor than Gen. Scott, Gen. Taylor, Henry Clay, or Daniel Webster, because, as a farmer, he has done more good than they have, as warriors and politicians. James Buckelew, of Middlesex Co.,

his native place, well known throughout the state as one of the most enterprising men of business and wealth, is also one of the best farmers in New Jersey. Although not yet 50 years old, he has made all his wealth by his own industry, and the management of those he has employed to labor, and probably has cleared up and improved, or renovated, more worn-out land than any other man in the state. He owns, where he now lives, about 1,200 acres of land, the greater part of which, when he commenced there, seventeen years ago, was no better than thousands of acres of Jersey sands now are. But now, his immense barns and stacks of hay and grain are standing witnesses of the fertility of his improved soil.

To Improve an Old Pine Field.—After cutting off the timber, he burns it over and plows and then sows 40 bushels of lime and harrows it in, and sows rye, and perhaps clover. After the rye comes off, puts on a dressing of swamp muck in some instances 60 to 80 loads to the acre, of which he has a great quantity, and which produces a most marked effect upon all crops. He has also used the Squonkum, (green-sand,) marl, with the greatest benefit. It is applied at the rate of 100 to 500 bushels to the acre as a top-dressing upon grass or grain. It costs five cents a bushel at Freehold, and has to be hauled 10 or 12 miles, and yet is found to be a profitable application, even at the largest quantity.

Mr. Buckelew, is a very large owner of mules, keeping from 250 to 300 in use, mostly in towing upon the Delaware and Raritan Canal, though most of his farm teams are mules, and of excellent quality. A wagon for hauling off corn is coupled 20 feet apart, with two stout poles upon the axles, upon which the stalks are piled cross-wise and ride thus in pretty large loads from the field to the barn.

A new threshing barn, with machine to go by water, has just been built by Mr. B. 40 by 60 feet, with 34-foot posts, and an underground room of same size, for storing roots and receiving the grain from the threshing machine. Mr. B. also owns several other farms which he carries on by hired labor; and is improving in a high degree, by lime, marl, muck, manures, deep plowing, and draining. The effects that this man has produced not only upon his own land, but by his example upon all the country around, is well worthy of notice.

All the land in this part of the state is comparatively level; that is, there are no hills, and the soil is mostly sandy—just the kind to be benefited most by manure and lime.

Isaac Pullen, nurseyman, thinks lime is injurious to peach trees, but that they are greatly benefited by manure. They always do the best upon new land.

Bonedust for Buckwheat, at the rate of two and a half bushels to the acre, Mr. P. says will beat any other manure he ever saw used, of the same cost. If the season is good for growth of straw, three bushels will make it fall down. With an application of only two and a half bushels upon an acre of land, so very poor that it would not

produce four bushels of corn to the acre, he got 40 bushels of buckwheat.

Swamp-Muck Manure.—About four miles from Allentown, I spent a night with Mr. Forman Hendrickson, from whom I learned something of the value of peat or swamp muck. Upon three acres, he put 35 big loads of muck and 50 bushels of unslacked lime, and made 25 bushels of wheat to the acre. Some muck will do very well just as it is dug, and some must have lime mixed with it, or it is of little value. In one experiment, last summer, he saw no difference in his wheat crop between manure, guano, and muck; but upon the part manured with muck, the grass was much the best. His usual course is to dig and pile his muck and mix lime with it. His neighbor, Ezekiel Coombs, who is one of the most successful users of muck in the state, pursues this course: He bought a worn-out farm a few years ago upon credit, and by use of muck, has paid for it, besides erecting good buildings. The crops mentioned in the January number of the Agriculturist, of Mr. John L. Hendrickson, were made upon a farm that had been rented and skinned for fifty years, but by the use of muck, he now gets one and a half to two tons of hay to the acre, and 30 bushels of wheat.

To Drain Land where quicksand is troublesome, can be done by cutting two ditches above the main ditch, not quite deep enough to be affected by the quicksand, so as to inclose a triangular-shaped piece of ground, which serves to take off a portion of the water and relieve the pressure of sand into the main ditch. So says Mr. Thomas Hancock. His practice is to plow in all manure upon wheat ground and harrow in all guano, lime, and ashes. He never uses any top-dressing upon grass except marl.

Rent of Land, at Camden N. J., is worth six dollars an acre, the renter finding his own manure to as great or greater amount, and yet cultivation is found profitable, owing to the convenience of Philadelphia markets, and the facility of reaching New York by railroad. In other parts of the United States, the fee simple forever, of far better land can be had for less money, which will produce more, without manure, and yet is not worth cultivating, for the very simple reason that the cultivator has no market for his surplus produce. Such land can only be made available by increased facilities of transportation. Strange that all farmers do not see the advantages of making good carriage roads, and the interest they have in railroads, plank roads, canals and navigable waters. SOLON ROBINSON.

MANURING ORCHARDS.

WHEN orchards bear profusely, or the soil through which their roots extend, yields crops which are removed from the ground, the trees ought to be supplied with an ample dressing of manure, as often, at least, as once in four or five years. We think, however, a better way is to allow the orchard to take its place in a rotation. Unlike many others, we would not object to occupying the ground with any particular species

of vegetation, but let it be potatoes, corn, wheat or oats, as the soil or the judgment of the owner may dictate. But we do insist, that where an exhausting crop has been taken, ample compensation in manures should be made, for the exhaustion thus occasioned.

It is better, however, as a general rule, that orchards be plowed only in their younger days, before their tops have become much developed; then put the ground in the highest condition of fertility, and lay it down to grass, and invite the extremities of the outspreading, pendant branches to fall as low as the ground, if they prefer. This greatly facilitates and economises harvesting when fruit is hand picked, as all valuable fruit should be, and the grass may be equally well secured under such trees, as when the branches are more elevated. We admire a luxuriant orchard, with its broad, umbrella top, sweeping the ground when loaded with rich, blushing fruit, and no fields can be better occupied than with such a harvest, if the varieties are well chosen, and the trees have received the proper care.

If the orchard is in a meadow, and the grass and apples are annually removed, the leaves will of course follow them, as soon as the autumnal blasts or wintry winds sweep over the smooth surface; and thus is the ground robbed of all the vegetable matter to which it has given life through the season. Were the orchard as well protected as the forest, by its numerous low swales, fallen branches, or upturned trunks and roots, and the innumerable standing trees, the decaying leaves and branches, and fallen trunks would restore to the soil all it had abstracted; but in the absence of these, its natural manures, it must receive others or starve.

Ashes are one of the best applications for an orchard; so, also, is swamp muck, or a compost of barnyard manure; charcoal is excellent, as is also lime, and occasionally bone-dust, plaster, and salt, each of which is appropriately applied around the roots. Scraping the trunks when they become unthrifty, mossy or hide-bound, and washing with strong soap suds or wood-ashes ley, and then giving a strong coat of whitewash, are attended with the best effects. These act both as manure and destructive of insects and worms.

SUMMER SQUASH, OR CYMLING, FOR STOCK.

We are not aware that this article has been raised as a field crop, yet we think it may be introduced with decided advantage, for such as require additional food for stock, during the summer months. There are two varieties of vines, the bush and the runners; the former may be planted nearer than the latter. Both are prolific bearers, where the choicest kinds are selected, and the soil, manure, and cultivation are judiciously chosen. They are picked while still green, and given to the stock, either raw, steamed, or boiled. In consequence of this early harvesting, the vines will continue to flower and bear abundantly, through the warm season.

The soil should be similar to that for pump-

kins, being a light sandy or alluvial loam, well pulverised and very fertile. In addition to a good soil, the plant pays abundantly for heavy manuring. For this purpose, scarcely anything comes amiss. We have found the droppings from the poultry yard one of the most efficient manures, when mixed with ashes, and immediately buried within and around the hill. Where this is not attainable, guano may be used in connection with other manures. There is no danger of applying too much compost, provided the vines can be irrigated at pleasure, if the season require it. In the absence of the requisite moisture, an excess of manure would be likely to burn the vines.

May we ask that some of our readers, having milch cows or swine, to feed this summer, will plant a half acre or more, under favorable circumstances, and communicate the results of cost and manner of cultivating, the yield, and its value for stock.

JUVENILE VAGRANCY AND CRIME—THEIR REMEDY.

THE disclosures recently made of vagrants by the chief of our city police, are quite astounding. He shows an enormous amount of concentrated vice and destitution within our limits; and it has become a leading subject of consideration among the enlightened and philanthropic, how this nuisance shall be most effectually abated.

That a large proportion of this, probably, not less than nineteen twentieths, is of European origin, (the parties being either emigrants from Europe, or their immediate descendants,) does not at all alter the aspect of the case. As a nation, we might with entire propriety, oppose some obstacles to emptying the poor houses, the lazarettos, the Newgates, and Bridewells of foreign countries, upon our shores; but it has hitherto suited the policy of America, to welcome everything, from the highest genius and worth, down to Congo or baboon, without let or hindrance; and we see no signs for the future of qualification nor abatement to this policy. Our destiny seems to be, continual acquisition, and most unfortunately for our city, her monopoly of foreign commerce, guarantees also a monopoly of foreign vagrancy, destitution, and crime.

In the fullness of American aspirations, we look to her commanding agency mainly, as the future renovator of the globe. The intelligence, the enterprise, the activity, the resources, and more than all, the moral tone pervading those portions of the country, where the foregoing qualities are most conspicuous, together with the occupancy of half a continent, and an ocean on either side, to speed our designs to immediate results—these are the groundwork of our hopes in the consummation of this great object. From the shores of the Pacific, we are inevitably destined to meet our co-workers, the other great branch of the Anglo-Saxon race, at New Zealand, New Guinea, Borneo, New Holland, Hindoostan, and at the Cape of Good Hope; while China, and even Tartary and Siberia, will afford abundant scope for Yankee missionaries, Yankee

pedlars, and Yankee adventurers of every grade. Such, at least, will be our destiny, if we mould the foreign elements, now cast forth upon us like a flood, to the present type of Yankee character.

It has been wittily said of England, that she had long since swallowed Ireland, but had never yet *digested* her. We are taking unmeasured potions of a similar quality, and if we have not vigor enough to assimilate the better parts and make them contribute to the growth and strength of our system, and cast the remainder into the draught, to subserve some baser uses, we shall soon find a deep-seated disease, a moral poison, creeping through our frame, paralysing every function of the body politic, and at last consigning our national fabric to a premature and dishonored grave.

But we have full confidence in our ability to regenerate the world, whether we are to carry forth the germ of intelligence and true civil and religious liberty, and transplant them for future development and growth abroad, or whether we are to envelope the stagnant mass thrown upon us, and impregnate it with our own leaven. We have the ability—have we the disposition? In this last great undertaking—we will not say, desperate enterprise—New York has the honor to lead the forlorn hope. What then is the remedy for the mass of vagrancy and crime congregated from every country and clime, and festering in our midst?

We have penitentiaries, jails, work houses, juvenile places of refuge, and police stations. Let all these remain as they now are. They are valuable means of repression at least, and in many instances, of reformation; and for numbers of the older, and more incorrigible subjects, they are indispensable. But we require to superadd to all these, some general and expansive plan, or system, something sufficiently large to embrace all who need its corrective influence, or its benign and salutary aid.

Our plan, then, is simple as nature, and almost as untaught as the forest or fields. Give us only the earth—a sufficiency of our good old mother earth, with just enough of plain, substantial buildings to afford required shelter for inmates, animals, tools, and harvests, and add to these the means of instruction—in brief, let us have a few farms, with common district and Sunday schools attached, each under the guidance of two or three competent, judicious male and female managers, to impart the proper religious, intellectual, and physical education, and we have ample provision for the reformation, education, and support of all the vagrants, paupers, juvenile delinquents, and petit-larceny adults, now infesting the city and its suburbs. Money enough would be required to purchase and prepare the farms and buildings; and an annual amount for salaries of managers, and perhaps the supplies of clothing, &c. Yet we are inclined to believe that in a judicious location, judicious management would nearly cover every current expense.

The name of such institutions is not unimportant. No *house of refuge, reform school, or*

similar designations should invest the graduate with a perpetual badge of implied infamy and disgrace. Let them receive the softer names, of the home of the friendless, the orphan's farm, or some other endearing appellation, and let them be homes, not only for the really fatherless, but for all such as inherit an orphan's woe, who are not adequately supplied by a parent's care. Here they may remain till they have reached their majority, learning not only the most proper management of the farm, but such auxiliary arts as those of carpenters and joiners, blacksmiths, tailors, and shoemakers, as their respective tastes might dictate. With suitable rewards in money, for overwork, by the time they were of age, the industrious might accumulate quite a little capital to commence life with, enough to buy them a few acres of government land, and a few tools to work it; or they would at least be fitted to earn an honest and respectable living, at wages in the country, away from the temptations and vices of the city.

Similar institutions, so modified as to suit their different requirements, might be arranged for adults. In all, the tillage of the earth should be the primary occupation. Let them be far removed from the haunts and associations of the city, and let no walls nor bonds constrain their stay except those of a realising, unmistakable sense of increased comfort, health, and respectability beyond what they had abandoned. If a pupil or a pensioner absconded from the premises, let him go till vagrancy or crime renders him again a candidate for admission; and if such results prove troublesome, let a work house with stone walls and iron doors, become the future receptacle of the unmanageable.

The machinery in all this arrangement would be of the simplest kind. One, two, or three hundred acres of land in every farm, and economical buildings, with implements and furniture for each, would be all the permanent capital required. If the number of applicants increased, increase the land, and hire a few more managers; if it diminished temporarily, lease a part of the ground or work it on shares; or if they were permanently lessened, sell it and dismiss the agents.

While we know of nothing more simple, we know nothing more likely to be efficacious than the above, and we believe it could be at once introduced with entire success. Good managers would be the principal requirement, after the requisite funds; and the last would simply be a division of immoderate appropriations in the city, to moderate ones for securing the same objects in the country. We believe Mr. Coleman and others, have given the details of something of this kind, in France. We have not read these details, and know of nothing similar in this country. If properly undertaken, it cannot fail of success—Who shall have the honor of demonstrating it?

—♦—
SALT INJURIOUS TO POULTRY.—Do not give poultry salt, nor salt food. It is poisonous to them.

NEW MODE OF VENTILATION.

The discovery, in England, of a new principle of ventilation, the truth of which seems established beyond question, will furnish an important desideratum in greenhouse management.

It has been ascertained that air, like water, can be made to circulate through a syphon, but inversely with the latter fluid. That, whereas, water will enter a syphon by the shorter arm, and discharge itself by the longer, air on the contrary, will always enter by the longer arm and discharge itself by the shorter. Thus, if a stove-pipe elbow be inserted in the chimney, with one of its orifices facing the ceiling, a syphon will be formed of which the chimney will be the longer arm. The air will rush into the shorter arm of the stove pipe, and discharge itself by the longer arm of the chimney, without the necessity of a fire in the chimney, to cause a draught, which is often required where there is simply a hole in the chimney for ventilation.

One great advantage of this principle, as we understand it, is, that there is no inward current of cold air from the outside—that the syphon can only work in one direction. Thus, when there is no chimney, two stove-pipe elbows united can be inserted in a sash pane, with the shorter elbow in the room. The current of air will set strongly from the room, and a person may sit immediately under the pipe without danger from the descent of the cold air upon him, which always takes place when a sash is lowered.

This principle is of no slight importance in its application to greenhouses. Every gardener knows the importance of getting rid of the bad air in his houses, and also knows the difficulty of doing so without having his plants cut, to use a technical term, by the cold air rushing in upon them. Now this discovery remedies the difficulty at once. All he requires, is a sufficient number of these stove-pipe elbows introduced, either into the back wall or roof, with means of closing them at pleasure, and he can, in the most extreme weather, thoroughly ventilate the house, without the least injury to his plants, from the cold.

Many of the inventions of the present day seem to be less the novel application of old principles, than the discovery of entirely new principles in natural science. Such is the case both with Polmaise heating, and with the present invention, and with the progressive tendencies of the age—still more important results may be anticipated from the exertion of mental inquiry in this direction.

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QUALITIES OF LIME, AND ITS COMPARATIVE
VALUE FOR AGRICULTURAL PURPOSES.

The questions are frequently asked, which is most useful for the field, oyster-shell or mineral lime? Is not magnesian lime always injurious? Is lime or marl the best fertiliser? Numerous other and somewhat similar inquiries are constantly made by farmers, most of which would be easily resolved by their own minds, did they possess a tolerable knowledge of the leading

principles of lime, marl, magnesia, and their application. An entire volume might be appropriately occupied with the consideration of these important fertilisers, but we must content ourselves with the occupancy of a page or two only.

Lime (carbonate of lime) constitutes almost the entire portion of limestone, marble, chalk, oyster shells, and others of marine or fresh water origin; and marls seldom contain less than 20, and frequently as high as 70 or 80 per cent. of carbonate of lime. It is a compound substance, made up of two *proximate* principles, carbonic acid and lime, in the proportions of 46 acid, and 54 lime. Each of the above contain two distinct principles termed *ultimate*, because we do not know that they can be decomposed or separated.

Quicklime is the condition in which lime is left after burning limestone, chalk, or marl, which expels the carbonic acid. It is composed of oxygen (a gas) about 28.6, and calcium, (a metal,) 71.4, in every 100 parts. Carbonic acid is made up of oxygen, about 72.4, and carbon, 27.6, in every 100 parts. The metal has the same peculiarity when exposed to air, as potassium, the base of potash, when exposed to water. It takes fire and burns with great intensity until saturated with oxygen, when the above proportions are again re-established. So much for these compounds, the knowledge of which will not be unimportant to the thinking agriculturist, in tracing their various changes and application. Nor are other characteristics less so.

If *quicklime* is exposed to the air, it rapidly absorbs about one third its weight of vapor; or if water is thrown upon it, this instantly combines with the lime, until it reaches the point of saturation. This compound is called the hydrate of lime, and is the condition in which freshly-applied lime exists in the soil, when spread and incorporated with it. After a time, however, it gradually combines with carbonic acid, forming an imperfect carbonate; and it is the alternate absorption of carbonic acid and other gases, and their relinquishment to the demands of growing vegetation, which, in the yet unsolved mysteries of agricultural chemistry, is deemed one of the most beneficial results of the action of lime.

Lime is a direct food to plants, constituting a part of the ash of all; but it is found in much greater proportions in some than in others. 1,000 lbs. of dry pea straw, sainfoin, red and white clover, each contain from 20 to 30 lbs. of lime, while lucern has nearly 50 lbs. Every other cultivated plant requires a considerable quantity of lime to mature and perfect it. But in addition to this, and its aid in bringing the gases (the organic portions) to vegetables, it greatly facilitates and disposes those chemical changes in the inorganic or earthy parts of soil, which are so essential to furnishing the plants with all they may require.

Lime serves the further purpose of altering and improving the mechanical texture of soils. Its greater density and weight induce its settling

through the adhesive masses of clay soil, thereby opening them to the free admission of air and moisture. Where these lands have been underdrained, and the subsoil plow has been used, the application of lime is invaluable. The addition of moderate quantities of manure on fields thus prepared, insures prolonged effects. When applied to light and sandy soils, with the addition of vegetable manures, lime compacts and renders them more adhesive. The manures, roots of grasses, &c., are thus combined in a fine mould on the surface, forming a proper conductor and radiator of heat, an absorbent of moisture, and the most appropriate bed for the roots of plants. Lime seems to exert a further, and most improving effect in both clay and sandy soils by inducing those chemical combinations in their constituents, which tend materially to correct their inherent defects. By rendering clays more porous and friable, and sands more adhesive, their mechanical texture is made to approximate as nearly as possible, towards the perfection of each. It is used with great effect on peaty soils, as it hastens the decomposition of the vegetable matter, and diminishes its porosity and sponge-like texture, thereby rendering it less absorbent of water in excess, which is one of its greatest faults. For such soils, it ought always to be applied in its caustic condition, as quicklime.

Lime acts favorably for vegetation, by correcting the acidity of the soil. It not only combines with and neutralises most of the acids found in soils, or that find their way in them from springs, but it also decomposes and renders available for the wants of plants many substances which in their natural condition are really noxious to them.

Lime decomposes the inert vegetable substances in the soil, and converts them into an immediate and appropriate food for the crop. It is in consequence of this favorable action and the large increase of the crop thereby secured, that the vegetable manures, and so much of the mineral element, as are required by plants, are speedily abstracted. The consequence is, that deterioration of the soil inevitably follows, unless other manures are added. The lime simply enables the soil to yield in a few years, what would otherwise require a greater number. But these augmented crops furnish the means of perpetual and increasing fertility, even if a part only of the excess beyond the ordinary yield, is appropriated for this purpose.

It is essential to the favorable action of lime, that the soil contains a full supply of vegetable matter; and when the lime has been applied in excess, or it ceases to act, more vegetable matter must be added. The effect of lime is not perceptible in the soil the first season it is applied, and its full influence is seen only after the second or third. Its effect is greatest when kept near the surface.

TO RAISE EARLY YORK CABBAGE.—Plant the seed, in hills, in October, and before the ground freezes turn a furrow up to the plants each side and then cover them with a hand hoe and uncover in the same way in the spring.

COMBINED WIRE AND PICKET FENCE.

THIS fence is the invention of Mr. Lucius Leavenworth, of Trumansburgh, Tompkins Co., N. Y., for which Letters Patent were issued last October. The wire can be formed so as to put the pickets up in sections of any required length. It is drawn sufficiently tight at each corner of the field to strengthen the fence and fasten the pickets so that a brace is only necessary at the first and last posts.

The remainder of the posts, if wood, can be set in sills; if iron, in flat stone. The hooks, H, H, pass through the posts to allow the wires to be drawn. The screw on the opposite side of the posts will draw the end of the hook to the post which secures the wire. The wires are first secured on the post C, by screws and bolts, so that all the parts are of simple construction. It can be taken down, removed and put up again with very little trouble, as it weighs only about thirty-five pounds to a rod.

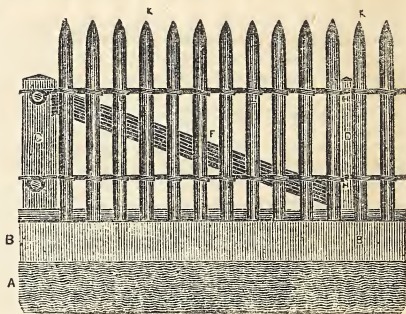


Fig. 36.

It appears to be well adapted for farmers on the western prairies, and in all countries where timber is scarce. With suitable machinery, where timber is plentiful, it is calculated that pickets can be manufactured for from thirty to thirty-five cents per rod, and the wire formed for putting it up, will cost from twenty to twenty-five cents.

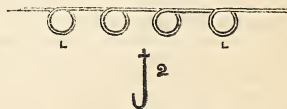


Fig. 37.

Fig. 36 is a front, and fig. 37 a sectional view of the improved wire fence. A, is the ground, B, the bottom or bass board, C, D, are the posts, K, K, are the pickets, L, fig. 37, is a wire, H, H, are the binding hooks, one of which is represented by 2. The bottom board is bevelled at the top, and the bottom of each picket has an angular notch cut in it to fit on the upper edge of the board, which gives firmness to the fence, while the board presents a bevelled edge to the weather.

PATENT WIRE RAILING.

Below, we give another pannel of the beautiful wire railing noticed at p. 81 in our March number. It is well suited for guarding low windows, balconies, and the lighter kinds of fence, as well as ornamental gates. It is strong, durable, and may be painted any color that may be desired.

This article, we repeat, may be advantageously introduced in all situations where wood and cast iron are used for railing, grating, &c., at less than half the cost of the latter.

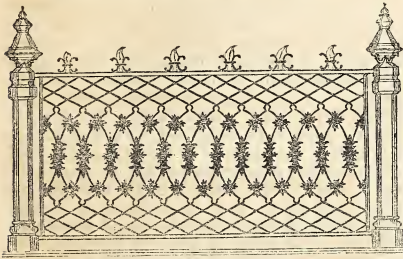


FIG. 38.

REMOVAL OF SLAUGHTER HOUSES FROM CITIES.

THE existence of slaughter houses within or even in the neighborhood of cities will soon be classed among the most intolerable nuisances of a barbarous age. There seemed to be a plea for their existence before the period of good highways, as it was so much more convenient and economical to bring the carcass to market on the hoof, rather than in vehicles over a rude, half-made road. But all apology for their continuance, since the era of railroads, has been utterly extinguished.

We stated in the preceding volume, some of the reasons for the removal of slaughter houses from our midst, since which, there has been a strong effort among our citizens to oust them, but simply from a present dense population, to another location on this island that within a few years will be equally occupied. We trust there will be no change of this kind; we hope our citizens' noses will be kept to the present slaughter yards till satisfied, and they are willing to part company with them once and forever.

What a beastly practice this is, will be obvious to any one who will take the time to consider it for ten consecutive minutes. The animals are taken from their accustomed haunts; huddled into masses of strange associates; fed with unaccustomed food, and at irregular periods, and driven through oppressive journeys. The result of all this is feverishness and other diseases in the animal—loss of condition, deterioration in quality and quantity of carcass, a long delay and great expense in reaching market. Add to this the largely increased charges for cattle pens, yards, sheds and stables, slaughter houses, &c., in the city, as compared with the same quantity of ground occupied in the coun-

try, where land is worth scarcely \$50 an acre instead of \$200 per front foot, as much of it is here; then reckon the expense of returning hides directly back for tanning, the increased expense of trying out the tallow, cleaning the bones, boiling the glue, removing the offal; and lastly, consider the injury to health, the loathing and disgust to a refined taste from the presence in our midst, the hardening effect on the character of the young, who are often led by curiosity to witness these butcherings; and the frequently sad and often fatal accidents resulting from driving these infuriated animals through a crowded city, and we have reasons to spare for putting these nuisances forever beyond the reach of our citizens.

All these evils will be avoided by having slaughter houses arranged at convenient depôts, along the lines of railroads, where cheap food, ample room, and entire quiet and rest afford every desirable requisite for the health and thrift of the animals, and the best condition of their carcasses when dressed.

When ready for market, the meat might be placed in cool, well-ventilated cars, after sundown, and be in the city by daylight, after passing over 50, 100, or even 200 miles of railroad. We trust some enterprising country people will take hold of this matter in the proper way, if the city butchers longer defer it; and if our citizens and municipal authorities, would aid this enterprise by a proper patronage and just enactments, it would be eminently successful, without a single coercive measure. Such an arrangement, properly carried out, would save to the consumers in this city over a million of dollars annually in the price of their meat alone, and we believe, fully two millions. When shall we have this reform, so much and so long needed?

THE POTATO CURCULIO.

I BEG leave to call the attention of the farmers of our country to a few facts, which I trust will not be uninteresting to them, as, on the authority of Dr. T. W. Harris, of Harvard University, they are now presented as new and important. I allude to the hitherto unknown habits of a small beetle, (*Baridius trinitatus*, Say,) which feeds on the inside of the potato stem, causing the plant to blight, and giving the fields the appearance of having been scalded.

In August, 1849, my attention was called to the subject by Mr. Wilkinson, principal of the Mount-Airy Agricultural Institute, who discovered small grubs in the potato vines, on his farm, and naturally feared injurious consequences. On pursuing the subject, I had the gratification of following them through their various transformations, and with the assistance of my friends, have traced their ravages from Mexico to Maine.

The female deposits her eggs on the leaf buds of the potato vine, at the foot stalk of a leaf, from 6 to 18 inches above the ground; they are of a bright-red color—from one to three deposited on a stem, and never more than one on a

bud. When the grubs are first hatched, they are bright-red, but soon change to a pale straw color; they soon penetrate the bud, and eat into the stem, where they feed, their path being always downward. When fully grown, they construct their cocoons of the inside fibre of the vine, forming a cavity, from a foot above the ground, to the termination of the root. When the insects have changed to pupæ, the vines decay at the roots, and the tops appear as if scalded.

They remain from 14 to 20 days in the pupa state, when they cast their skins, and change to a small, dusky, black beetle, a little more than an eighth of an inch in length, having the wing cases bordered by a narrow black band, and three black dots on the upper margin, near the thorax. In many of the fields in this neighborhood, every stem was infested by these insects, causing the premature decay of the vines, and consequently preventing the tubers from growing to their full size, and on passing a knife through the potatoes grown on these sickly vines, a watery spot was always found in the middle, and a streak from this spot to the root on which it grew.

Specimens of the *Baridius vestitus*, found in this neighborhood, have been sent to Dr. T. W. Harris, of Cambridge, and Mr. T. C. Westwood, of England, who agree in opinion that they cannot be the cause of the scourge so well known as the *potato rot*, as this species is strictly American, "but," says Westwood, "that they are capable of committing great injury on a crop of potatoes, cannot be doubted." If so, is it not the duty of every observer to make known any additional facts that may fall under his observation? For it is only by such efforts that questions of this nature can be relieved from embarrassment.

That the potato rot is an epidemic, sent, like the cholera, by an All-wise Hand, to be withdrawn at his good pleasure, is, I believe generally acknowledged; yet, like the cholera, may it not be checked and restrained by timely care, and the removal of exciting causes, and if these insects be not the origin, may they not be the exciting cause of the rot in many instances; and will not their existence in some fields and not in those adjoining, account for many facts that have puzzled potato growers throughout the broad land?

An additional fact may strengthen this opinion. In the summer of 1849, a large field near Camden, New Jersey, was planted with both early and late potatoes, the interval of time between the plantings, my informant stated, was two weeks, consequently, the early plants were above ground some time before the late ones; all the early plants were attacked by the *baridius*, and not one found in the late planting; while in a garden, in Germantown, the late planting alone suffered.

Does not the question then naturally present itself, is not the *baridius* the cause of that kind of rot which many farmers assert is prevented by mowing off the tops of the potato vines?

Germantown, Pa., Jan., 1850. M. H. MORRIS.

ROADS.

SOME people are beginning to find there has been a great waste of horse flesh, from the unnecessary steepness of hills over which they are required to climb in many of our long-travelled roads. This is a knowledge that has come late to portions of this country; but come it has, at last, and thankful are we, both for ourselves and the animals, that it is found to be a matter of dollars and cents to make roads approximating as nearly a level as localities and a reasonable expenditure will admit.

In a drive the past season, of some hundreds of miles, mostly through the oldest-settled portions of the Eastern States, we often observed in some of the most frequented roads, steep ascents that might with little trouble be entirely avoided. A little more circuitous route, on a nearly level road, would enable the team to reach a point at an easy trot, with less fatigue and in half the time, he is tugging at his load, now dragging it up a steep hill, and anon holding it back. The entire cost of the land on some new route and the expense of grading and working a road, would be repaid semi-annually by the economy in time and horse flesh, on portions of many of our thoroughfares.

We find the comparative draught of a horse on level and varying ascents, in Gillespies' work on roads, thus stated: If a horse can draw on a level

		1000 lbs.
in a rise of 1 in	100 ft. he can draw only	900
" 1 in	50 "	810
" 1 in	44 "	750
" 1 in	40 "	720
" 1 in	30 "	640
" 1 in	26 "	540
" 1 in	24 "	500
" 1 in	20 "	400
" 1 in	10 "	250

"In round numbers, upon a slope of 1 in 44, or 120 feet to the mile, a horse can draw only three quarters as much as he can upon a level; on a slope of 1 in 24, or 220 feet to the mile, he can draw only half as much; and on a slope of 1 in 10, or 528 feet to the mile, only one quarter as much.

"Though a horse, on a level is as strong as five men, yet on a steep hill it is less strong than three; for three men, carrying each 100 lbs., will ascend faster than a horse with 300 lbs.

"There is a popular theory that a gently undulating road is less fatiguing to horses than one which is perfectly level. It is said that the alternations of ascent, descent, and levels call into play different muscles, allowing some to rest while the others are exerted, and thus relieving each in turn.

"Plausible as this speculation appears at first glance, it will be found on examination to be untrue, both mechanically and physiologically; for, considering it in the former point of view, it is apparent that new ascents are formed which offer resistances not compensated by the descents; and in the latter, we find that it is contradicted by the structure of a horse.

"My acquaintance with the muscles by no

means enable me to explain how a horse should be more fatigued by travelling on a road uniformly level, than by travelling over a like space upon one that crosses heights and hollows; but it is demonstrably a *false idea*, that muscles can alternately rest and come in motion in cases of this kind. Much is to be ascribed to prejudice originating with the man, continually in quest of variety, rather than with the horse, who, consulting only his own ease, seems quite unconscious of Hogarth's line of beauty."

IMPROVED SHORTHORNS—BATES' STOCK.

In the August number, 1849, of the *Agriculturist*, is an article by me, on the shorthorns, which I imported last year, for Mr. Sheafe, Col. Sherwood, and myself. The January number contains strictures by S. P. Chapman, on so much of that article as relates to the bull 3d Duke of Cambridge (5,951). As Mr. Chapman does not understand my views, and therefore mis-states and misconstrues them, I reply to him.

He takes positions, which present questions so numerous, complicated, and extensive, that I must leave them unnoticed, as there is, just now, a propriety in not discussing them; when this condition ends, I shall do so, and will fully consider them. I merely enter my protest to show non-assent, with the intimation to Mr. Chapman that his views shall receive attention and refutation hereafter.

In this notice, I propose to state my meaning in the paragraph, to a portion of which Mr. Chapman objects, and to refute some of his views of breeding. He adroitly seizes on the last sentence of my paragraph, of which it is the deduction. To be clear, I must re-produce the passage entire. Speaking of the 3d Duke of Cambridge, I said:

"I take great pleasure in knowing, that I have brought to this country so superior a bull from the herd of that eminent breeder, Mr. Bates. He is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland, (1,940,) the best bull Mr. Bates ever bred. Mr. Bates has but one more, got by the same bull, now left; and Duke of Northumberland is dead. Mr. Bates repeatedly told me, that 3d Duke of Cambridge was more like his sire than any bull ever got by him. Breeders, desiring the blood of Mr. Bates, can nowhere else in this country, procure it with such high characteristics of style, quality, symmetry, and substance."

Of this, Mr. C. attempts the refutation of the last sentence *only*. I may therefore assume that he admits the rest. He quotes, "breeders desiring the blood of Mr. Bates, can nowhere else, in this country, procure it with such high characteristics of style, quality, symmetry, and substance." This is the text, its disapproval the object of his whole article. Never was an unfortunate sentence so misunderstood, nor so perverted by design. By its use, in an article printed in Canada, by Hon. A. Fergusson, I am charged with asserting "that from Mr. Sherwood, (through 3d Duke of Cambridge,) and from him alone, the Duchess blood can be procured, in this country." In letters addressed to others, and shown

to me, it is said that this sentence means "that the 3d Duke of Cambridge possesses more of Mr. Bates' Duchess blood than any other bull in America." And I am charged with so saying and designing so to say. Mr. Chapman makes it mean the same thing, but does so by inference or deduction; his words are, "no one will deny that if any one animal from a herd possesses the power of imparting to his produce, 'higher characteristics of style, quality, symmetry, and substance,' than any other animal from the same herd, it must possess more of the choice blood of that particular herd. To question this, is at once doubting the efficacy of blood animals." That is, my position, if it be true, must be true because 3d Duke of Cambridge has more of Mr. Bates' choice blood, (viz. the Duchess blood,) than any other bull in America. This is the meaning Mr. Chapman places on my words. Having done this, he proceeds to prove, by quoting Mr. Bates' opinion in his own words from a printed public letter, "that the choice blood of his herd is the Duchess blood." I never heard that any one ever doubted that such was Mr. Bates' opinion. Mr. C. then gives the pedigree of 3d Duke of Cambridge, (5,941) and Mr. Vail's Duke of Wellington, (3,654), and, by those pedigrees, shows that Cambridge has one cross, of Duchess blood, and that Wellington has two. The precise quantity which Mr. Chapman gives to each, is $\frac{1}{4}$ to Cambridge and $\frac{3}{8}$ to Wellington. Now all this shows in Mr. Chapman, a total want of knowledge of the laws of breeding, and of pedigrees in general, and in special of the particular pedigrees which he gives of these animals; but, to explain this as to pedigrees would require too much space now. If Mr. Chapman be correct, then it would be true, that a bull got by one of Mr. Bates' Duchess bulls, dam by a Duchess bull, grandam a *poor roadside tack*, would be a better getter, (would impart more "high characteristics of style, quality, symmetry, and substance,") than a bull got by a Duchess bull, out of a pure, full-bred, stylish shorthorn cow, of another approved tribe. Such an absurdity no one, unless it be Mr. Chapman himself, or some one as little skilled as he, would maintain, and perhaps not even he, though he seems to do so. On his rule, if the sires have each the same amount of Duchess blood, they would possess and impart equal "style, quality, symmetry, and substance." Yet, no two full brothers were ever equally good animals, and equally good getters. Duke of Northumberland, (1,940,) and 2d Duke of Northumberland, (3,646,) were full brothers; the first was very superior as an individual, and very superior as a getter; the last far inferior to his brother as an individual, and far inferior as a getter. The 3d and 4th Dukes of Northumberland, (3,647, 3,649,) were full brothers and twins; the 3d Duke Mr. Bates never used, and he was far inferior both as an individual and as a getter to the 4th Duke. The 3d and 4th Dukes had more Duchess blood than their half brother, Duke of Northumberland, (1,940,) and yet were far, very far inferior to Duke of Northumberland, (1,940,) as individuals and as getters.

Oxford premium cow, the dam of Mr. Vail's Wellington, was by Duke of Cleveland, (1,937,) and her half sister, Oxford 2d was by Short Tail, (2,621,) and both out of Matchem cow. Duke of Cleveland and Short Tail had the same precise amount of Duchess blood, and of course Oxford premium cow and Oxford 2d had the same precise amount. Mr. Bates never retained an animal out of Oxford premium cow, which he *could* sell, and always sold them at *low prices* for him; he never used a bull out of her to anything or for any purpose, even to get steers; he never sold any of the produce of Oxford 2d, and in a letter to Mr. Vail, printed in the *Agriculturist*, he says he would not take 500 guineas, (\$2,500,) a-piece for the four he then had, and indeed, would not sell them at any price. Mr. Bates used the full brothers and the sons of Oxford 2d to *all* his herd; and he was right in his choice, for Oxford 2d, her brothers and her produce are all superior to Oxford premium cow and her produce.

Duke of Cleveland, (1,937,) the sire of the dam of Mr. Vail's Duke of Wellington, (3,654,) was a Duchess bull, and was so inferior that Mr. Bates, (in *The New Farmer's Journal*, Aug. 8, 1842,) says of him, "this bull never exceeded in weight *forty* stones of 14 pounds per stone, when above three years old;" that is 560 pounds dead weight, not half the proper weight. Duke of Northumberland, (1,940,) at the same age, weighed live weight, 2,520 pounds; sink one third for live weight, and his dead weight would be 1,680 pounds, just three times the weight of Duke of Cleveland. Could anything as a shorthorn be worse than Mr. Bates shows Duke of Cleveland (1,937,) to have been? Yet he had more Duchess blood than Duke of Northumberland, (1,940,) by one half!

The second best bull as an individual, ever bred by Mr. Bates, was 1st Duke of Cambridge, (3,637,) a distinguished winner, (and full brother of 3d Duke of Cambridge,) an animal for which he was offered more money than any other, except Duke of Northumberland; yet 1st Duke of Cambridge had only a fourth as much Duchess blood as Duke of Cleveland (1,937)! 1st Duke of Cambridge was refused by Mr. Bates to Earl Spencer, at a large price, and when sold to Australia, Mr. Bates said of him, "he is too good to remain in England, out of my own herd." So he was exported, when only 21 months old.

Mr. Bates' Duchess bull, Short Tail, sire of Mr. Vail's Wellington, had more Duchess blood than Belvedere, (1,706,) for Belvedere had none; yet, Short Tail was an inferior-looking animal, deficient in every point, except his brisket and his handling, and was at best only a moderate getter, while Belvedere was magnificent as an animal, and the best getter that Mr. Bates ever used, and the sire of the best animals he ever bred. Mr. Renick, the agent of the Ohio Cattle Company, to England, to purchase for them, said of Belvedere, "that he was the best and finest bull he ever saw in England or America." The best cow I saw in Mr. Bates' herd, was a Duchess, and was *not* got by a *Duchess* bull, but was by Belvedere, (1,706;); the

poorest of the whole herd was a Duchess, and *was* got by a *Duchess* bull; the only *other* Duchess, got by a *Duchess* bull, was a very superior cow, and the second best I saw in the herd. These last two cows were *equal* in Duchess blood, and yet their produce was like themselves, from the one superior, and from the other inferior.

Having shown Mr. C. in error, and proved that my position *may be true*, and *not* in consequence of the reasons he assigns, let me state what my words, quoted by Mr. Chapman, were intended to mean, only do mean, and can only be made to mean, by any fair construction. I mean, that Cambridge will impart Mr. Bates' blood in some degree more or less; that in himself he is the bull having the most "style, quality, symmetry, and substance," of all that have ever come to America from Mr. Bates' herd; that if breeders desire Mr. Bates' blood, they can, in Cambridge's produce, obtain it, and with it, more "style, quality, symmetry, and substance," than in the produce of any other bull from Mr. Bates' herd in America, and through the channel of a resembling and superior son of Mr. Bates' best bull. Mr. Chapman tacitly admits my positions when construed as I have here set them forth. But he makes another issue. I admit that Mr. Vail's Wellington, has more Duchess blood than Cambridge. I never thought, never said, he had not, and never wrote nor spoke a sentence that would directly nor indirectly indicate such a thing, and but from misconception, or design, I never should have been charged directly, nor by inference, with the assertion that from "Mr. Sherwood, and *from him alone*, the Duchess blood can be procured," in this country; nor with this, viz: "that Cambridge has more Duchess blood than any bull of Mr. Bates' breeding, in America."

Mr. Chapman institutes a comparison between Mr. Vail's animals, and Cambridge, in point of Duchess blood, giving pedigrees. I could investigate those pedigrees, and will do so hereafter. He wisely makes no comparison between these animals in their physical character. I could, but will not now, though I may hereafter. I will merely say that excellence in the physical animal, consists of "style, quality, symmetry and substance;" and excellence in blood, consists in having good blood, unmixed with bad blood; and it is necessary that animals should have their descent not only from pure blood, but from animals which have physical excellence. "Like produces like."

I know Mr. Bates' herd; and I say that having cattle of another tribe, the only animals I would use for a cross on mine, are those of the Duchess tribe, if I could get that cross properly descended in blood and from ancestors with physical excellence. I am not to be instructed in the excellence of Mr. Bates' Duchess tribe by those who never saw a single animal of it.

When I shall not be charged, as I have been with views and purposes I have never entertained, I shall return to Mr. Chapman's article, and will further consider it.

March., 1850.

A. STEVENS.

GUANO VS. WORN-OUT LAND.

In the spring of 1848, I made an experiment with guano on worn-out land, and the result induced me to try it again the following year on a larger scale. So, last spring, I broke up about 25 acres, most of which had not been plowed for nine years, marked it out both ways, and scattered over the hills about seventy pounds of Peruvian guano per thousand hills, afterwards running the field over with a small covering harrow where the ground was clear. But where the sedge sward was too rough for the harrow, I covered the guano with a hoe. I then dropped the corn in the hills, covered it the usual way, and it came up well. By accident, one row between two others was left without guano, and, without any prejudice or partiality was cultivated in other respects the same as the rest of the field.

Although the land was exceedingly poor, the corn had a healthy and vigorous look all the season, and filled out well, wherever the guano was applied, the fodder being at least four fold more than that of the unmanured row. At harvest, I weighed and measured the corn of 100 hills in the row which had no guano, and of 100 hills in the next row to it, the result of which was as follows:—

100 hills without guano produced 10 lbs. of inferior corn, equal to 4 bushels per acre, valued at \$2.00

100 hills with guano produced 41 lbs. of good corn, well filled, equal to 16 bushels, valued at \$8.00

Cost of 70 lbs. of guano per acre, at the rate of 70 lbs. per thousand hills, \$3.85

Thus it will be seen that the profits attending the guano is \$2.15 cents per acre more than on the land where no manure was applied. C.

Kent County, Del., Feb., 1850.

THE BEST ROTATION OF CROPS.—No. 1.

In any system of agriculture, in which a regular rotation of crops is introduced, with a view as well to profit, as to the improvement of the soil, it will be found decidedly disadvantageous to cultivate too great a variety of agricultural products. In proportion as these are increased in number, the farm must be cut up in more subdivisions, and consequently more fencing will be required, and more labor must be expended, in keeping them in repair. Besides, the crops will interfere with each other, and frequently so distract the attention of the proprietor, as to disable him from applying the necessary labor to each distinct crop, in due time, and proper degree. Hence all may suffer, more or less, for the want of the appropriate attention, in due time.

The advantages of a division of labor apply as well to agricultural, as to other pursuits; and every farmer who shall make the experiment, will find that, by directing his efforts to the production of a few only, of the various articles to which our soil is adapted, he will succeed better, both as relates to profit and the improvement of the soil, than if he had embraced a wider range in his agricultural pursuits. Influenced

by these considerations and impressed with their great importance, I shall endeavor to carry them out in the following rotation:—

Wheat is a very exhausting crop, and for that reason is not well adapted to a rotation, in which hemp is to be included. Rye is considerably less exhausting than wheat, and when fed off on the ground, will actually improve, instead of exhausting the soil. Indian corn is so necessary, in every system of agriculture, suited to most of the states, that no rotation can, with propriety, be adopted, in which that crop is not included. Corn, according to Judge Buel, is embraced in the second class of exhausting crops. It is less exhausting than either wheat or rye, when those crops are removed from the ground.

In the rotation exhibited in the table below, it will be seen that the hemp crop will be preceded by two crops of corn, two of rye, and two of clover; and consequently, if the rye be fed off on the ground, the hemp crop will follow two moderately-exhausting, two moderately-improving, and two very highly-improving crops. If, therefore, the soil be well adapted to hemp, and not much reduced by bad husbandry, at the commencement of the process, it will be in fine condition for hemp, when that crop succeeds the preceding crops of corn, rye, and clover.

The following table is adapted to a farm of 300 acres, 75 supposed to be woodland, and 225 acres cleared. Four fields of fifty acres each are appropriated to the rotation crops, and the other twenty-five may be considered as appropriated to meadow, hemp seed, garden, orchard, and vegetables. The principles of the rotation may be applied to smaller, or more extensive farms:—

ROTATION OF FOUR FIELDS OF FIFTY ACRES EACH, HEMP BEING ONE.

Year.	No. 1.	No. 2.	No. 3.	No. 4.
1851	Corn.	Clover.	Rye.	Hemp.
1852	Rye.	Corn.	Clover.	do.
1853	Clover.	Rye.	Corn.	do.
1854	Corn.	Clover.	Rye.	do.
1855	Rye.	Corn.	Clover.	do.
1856	Clover.	Rye.	Corn.	do.
1857	Hemp.	Clover.	Rye.	Corn.
1858	do.	Corn.	Clover.	Rye.
1859	do.	Rye.	Corn.	Clover.
1860	do.	Clover.	Rye.	Corn.
1861	do.	Corn.	Clover.	Rye.
1862	do.	Rye.	Corn.	Clover
1863	Corn.	Clover.	Rye.	Hemp.
1864	Rye.	Corn.	Clover.	do.
1865	Clover.	Rye.	Corn.	do.
1866	Corn.	Clover.	Rye.	do.
1867	Rye.	Corn.	Clover.	do.
1868	Clover.	Rye.	Corn.	do.

The foregoing rotation will be easily understood by an inspection of the table. It will be seen that the product of each year, will be one crop each of corn, clover, rye, and hemp. The woodland should be cleared up and set in blue grass. The clover crop may be pastured till the rye is ripe, and then all stock should be removed, and the young clover suffered to grow up and ripen, and should be plowed under late

in the fall, or early in the winter. This will form a fine preparation for the ensuing crop of corn, and such an abundance of seed will be covered under, that the succeeding crop of rye will be sufficiently set with clover, without sowing clover seed the following spring. Thus the expense and labor of sowing this invaluable grass need not be incurred, except at the commencement of the rotation in each field. Preparatory to the sowing of the rye crop, the corn should be well cultivated, and not a weed suffered to ripen, as thereby the soil would be unnecessarily exhausted, and the ground not in so good a state, for the succeeding crop of rye, and clover. When it is recollected that vegetables of all kinds, exhaust much more when ripening their seeds than at any previous time, the importance of attending to this recommendation will be evident. The corn should not only be kept clean, but plowed deep, this being very necessary to prepare it for the coming crop of rye and clover, especially the latter, which has a long tap root, and requires a deep permeable soil, as thereby it will be enabled to draw much of its nutriment from the subsoil.

Prospect Hill, Ky., Jan. 1850. A. BEATTY.

VALUABLE BREED OF FOWLS.

UNDERSTANDING that you are going to dish us up with some sketches and samples of poultry, I offer an account of a kind which is common in our neighborhood. Where they came from, I do not recollect; but, considering this of secondary importance, admitting them to be exotics, I will proceed to describe them.

They are known here by the name of "Italy Fowls," and in appearance, differ mainly from others by their large combs, which, in some of the males, are from $1\frac{1}{2}$ to 2 inches broad, double, and covering the entire crown of the head. They are about medium size, of a color varying from mottled-grey to a light-dun. In some males, however, the predominating color is red. The full bloods have rather blue legs and skins, which, in my opinion, is their only fault. But they mix freely with other breeds, and, with little care, they can be had with bright-yellow legs and skins. The texture of their flesh is fine and well-flavored, and they come to perfection earlier than any other kind I have ever had. I have five or six breeds of fowls, but these much outdo the Polands in appearance, and are equal, if not superior, in laying qualities. They also appear to be both hardy and healthy.

I see by footing up my store book from April last to December 1st, that from forty hens in three different locations, yet contiguous, I have sold 2,940 eggs, besides using freely for cooking in my family, &c. Two thirds of the time, the hens were not fed, but unrestrained as to roving, having the use of the barn and range of the farm. I also sold last fall, \$7 worth of males for killing, which grieved me to see so many beautiful birds cooped up at once; for had they been scattered among farmers, they would have done an immense deal of good.

SAMUEL Y. CLARK.

Westfield, Essex Co., N. J., Jan., 1850.

MR. ROBINSON'S TOUR.—No. 16.

Georgia Farming.—Augusta is one of the most flourishing towns in the south. It contains 8,000 or 9,000 inhabitants, and is situated at the head of steam navigation on the Savannah River; built upon a broad plain of rich alluvial soil, and is a place of a large trade. Two of the principal streets are about two miles long, and each one 160 feet wide. It is also the terminus of the Georgia Railroad, which already extends into Tennessee. The city is now engaged in a stupendous work nearly completed, by which the best water power in the Union is provided. This is done by tapping the Savannah, seven or eight miles above the city, with a navigable canal, which is brought down just to the edge of the town, and then the water drops from the first to the second level, 13 feet, and then is carried about a mile along a natural ridge, from which it is taken by short cuts, with 13 feet more fall to the third level, that carries the water through another canal into a natural hollow, and back into the river above the city. The work is done at the expense of the city corporation, which will receive a revenue for water rents. The navigation of the canal is made free, as by that thousands of bales of cotton come to Augusta market. There is now in operation one beautiful cotton factory of 9,000 spindles, and another of the same sized building. There are two excellent merchant flouring mills in operation, and a sawmill and some other works, and a large machine shop nearly ready; and there is ample room and water for a hundred or two more. Good materials for brick abound upon the spot, and coal, iron, lime, and granite up the railroad; and then the location being healthy, why should it not become a great manufacturing town? There is also a railroad 136 miles, to Charleston, which makes Augusta within five days of New York.

But the best of all, is the fact that the town has a population equal in point of character to any other, north or south; and is surrounded with some of the best and most enterprising farmers in Georgia. Among others, I may be permitted to mention Messrs. Eve, Delaigle, Coleman, Miller, and Moore. The first is one of the most enterprising and thorough-going sort; as is most apparent in his work as contractor upon the water works and canals; while at the same time, without the assistance of an overseer, he has carried on his large plantation, three miles below town, having made about 20,000 bushels of corn last year, besides a large quantity of other things for sale, with 30 hands, 28 of whom were females. This he has done from a thorough knowledge of the value and art of making manure.

The average yield of corn here, one year with another, is about 25 bushels to the acre—oats the same, though he has made 80 bushels. Mr. Delaigle told me that he had frequently made 300 bushels of sweet potatoes to the acre.

His premises are well worth visiting, both by northern and southern farmers. The first would see how a southern farmer, born upon the spot, can make and use manure, and see yards, sta-

bles, cattle sheds, stock, tools, buildings, and farming in its most comprehensive sense, equal to anything of the kind in his own country. The latter would see an example worthy to be followed.

I noticed in the cattle yard, a vast quantity of oak and other leaves, mixed with the manure. This is now being hauled out and dropped in heaps and covered; and in the fore part of April, the corn is planted in checks four feet by six, two stalks in a hill to stand, and each hill has a shovelful of this coarse manure, and a handful of lime, which he makes from oyster shells, "picked up about town."

Mr. D.'s sweet potatoes, of which he raises from 3,000 to 5,000 bushels a-year, are kept in a brick house, of which about five feet are above and five below ground. The potatoes are dug and put away as rapidly as possible, after commencing, and have a layer of fine straw next the walls, and several ventilators through the heap, made of four boards full of holes, nailed together. Over these are trap doors, into the cockloft, which has outside ventilators, to open and shut as required. In this way, with the least possible trouble, he keeps sweet potatoes through the winter and well into summer.

Mr. Eve's plan of manuring is different from Mr. D.'s, as he spreads all broadcast and plows it in; and he prefers to give the lots manured a thorough dressing at once, instead of scattering it over a wide surface. All of these bottom lands would be improved, most undoubtedly, by underdraining. But that never can be done while the owners cultivate so much land. And it is one of the hardest undertakings to convince planters that they would be richer if they did not own half so much. This "swamp land," as it is termed, was once considered inexhaustably fertile, and yet, it is now proved by those gentlemen, as well as others, that no part of their labor pays a more certain profit than manuring.

Upon the subject of using oak leaves for manure, Mr. N. B. Moore, who has had a good deal of experience, says that he considers them about the poorest vegetable substance he has ever tried. He prefers broom straw, or even fine straw, and certainly any kind of weeds, crab grass, corn stalks, or straw of any kind of grain.

All of these bottom lands are liable to overflow, excepting when the water is kept back by dams, or levees, as is the case upon a very great portion of all the river lands of the southern states. They also have the reputation of being unhealthy, and of affording as fine a growth of mosquitoes as the greatest lover of that kind of music could desire. Of the latter, I have no doubt. As to health, I believe that draining and liming, and improving cultivation will cure that.

Mr. Moore cultivates his farm principally for hay, to sell in town, but he has learned that no land, not even the Savannah-River Bottom, can be stripped of a crop every year, and yet continue to give, and so he keeps carts constantly gathering up manure in the city, which he puts on the land at the rate of one horse cart load every 20 feet, upon every bed, which are all laid off 20 feet wide. The manure is first picked up

about town, with carts and taken to a pile on a vacant lot, and from there is hauled to the farm in two or four horse wagons, and put in a big pile, with a good coat of locomotive cinders, and coal ashes covered over the top, where it is thoroughly rotted before using; for it is composed of all manner of things gathered up in the streets, yards, and stables. As soon as possible after it is hauled on the land, it is plowed in about two or three inches deep in winter, and in the spring, after the weeds have got well under way, he plows them all under, five or six inches deep, and sows millet, oats, peas, barley, clover, grass, &c., and harrows in; thus killing the weeds and allowing the crop to get a fair start. All the produce is sold or used as hay, and also a crop of crab grass. Of the latter, he cut up a crop some years ago from among the corn upon 100 acres, which he sold for \$600.

Mr. Moore, it is proper to remark, was not bred a farmer, though now one of the best in the country. That is, he makes as much, if not more to the hand, than any other man in that region; and all because he understands the value of manuring, and following a judicious system of cultivation, instead of the too common skinning one. Besides the profitability of his farming, his farm is kept in the neatest order of any one in that neighborhood of neat farmers. Altogether, his example is worthy of commendation, and profitable to be noted and followed.

AMERICAN WINE.

I DISCOVER in a late number of the *Agriculturist*, a notice of my sparkling Catawba wine. Last spring, I received from the province of Champagne, through a French gentleman of your city, a scientific and experienced manufacturer of wines, and while I shall not attempt to imitate any of the sparkling wines in Europe, I shall be able to produce a pure article, having the peculiar flavor of our native grape, and equal in all respects to the best imported. I believe the natural aroma and flavor will be superior. If not, I shall not attempt by artificial means to imitate foreign wines in this particular.

I have been testing the qualities of our native grapes for wine, for more than thirty years. My lease of life is drawing to a close, and I have not many years left to complete the experiment, and must press it. My second wine house, 40 feet by 120, four stories high, with the lower cellar, 23 feet below the surface of the ground, will be completed in the spring.

Last spring, I grafted twenty-four varieties of new kinds of native grapes, the cuttings of which were sent me from various parts of the United States. Many of them bore fruit, and from some of them, I made small samples of wine. A few of them promise well for the table and for wine. The common fox grape can never be of any value whatever. Neither can foreign grapes be cultivated to advantage in the open ground, even when obtained from a cold region. I have fully tested this.

Cincinnati, Jan., 1850.

N. LONGWORTH.

PURE DORKING FOWLS.

In the portrait below, the reader will recognise a true Dorking, a fowl which has received as jealous a care in its breeding at Surrey, England, as suits the pleasure of a *fancier*, who goes for purity of blood. So careful are the inhabitants of Dorking, of retaining these fowls in their own neighborhoods, that it has been with extreme difficulty that they could be obtained at any price.

When I secured my first lot of Dorkings, some ten or twelve years since, through a friend who was making a periodical visit at Dorking, he assured me that it was only after a trial of some two years, that he could obtain them, and then only by allowing a resident to go down to the

clergyman, Mr. Courtney, of the town of Dorking, a passenger with him on a recent voyage home from the United States.

"He accompanied them by a note, apologising for the high price he had to pay, and further saying: 'The chicken breeders of Dorking have adopted a sort of *principle*, that they will send away no birds *alive*, except capons, as they desire to retain them, as much as possible, among themselves, in which, by caponising, they carry on quite a profitable trade, and they can only be had by particular favor.'"

Among the first fowls which were imported for me, most of them were white or cream-colored, and a few speckled. The contour of the white being most pleasing to my eye, I selected

that color, or the cream-colored, for my own yard, and handed over to a friend all those which were speckled, or of a greyish tint.

Since the first importation, I have received from the same source, additional supplies from time to time, with the view to avoid an in-and-in breeding of the stocks.

The pair of fowls figured above, will be two years old the coming season, showing a more full development than would those of a less mature age. The weight of the cock is $8\frac{1}{2}$ lbs., that of the hen is fully $6\frac{1}{2}$ lbs. When caponised, this breed has been known to weigh 9 to 12 lbs.

Of this breed, Dickson, in his last work on poultry, (1847.) says: "These fowls, [Dorkings,] which form the principal supply for the London market, are distinguished by having five toes, instead of four, on each foot. Their flesh is extremely white, succulent, and delicate, and

they have the advantage of feeding rapidly, and growing to a very large size, when properly managed. Capons and poulardes, though by no means so common in England as in France, are sometimes made of these fowls, which, when castrated, grow to an enormous size, a well-fed capon having been known to weigh 15 lbs.! The feathers of the Dorking fowls are almost always white, and their legs are short, white, and remarkably smooth."

As Mr. Browne has so fully spoken of the good qualities of the Dorking, in his excellent work, the "American Poultry Yard," it would be superfluous in me to add anything further than to say, that after a long experience as a *fancier* in fowls, having nearly every breed



DORKING FOWLS.—FIG. 39.

ship and see them safely off for America, the producers of the stock being fearful that other sections of England might secure the breed. As corroborative of others finding a like difficulty, I extract from the "American Agriculturist," vol. iv., p. 204, the following:—

"As Dorking fowls are likely to be in vogue now, we think it advisable to caution all those who wish to possess good ones, to be very careful what they buy. Choice birds are extremely difficult to be had, as we found to our cost when in England, and it was only by special favor we procured some at last.

"Capt. Morgan has been upwards of two years endeavoring to obtain this importation, and finally succeeded only through a worthy

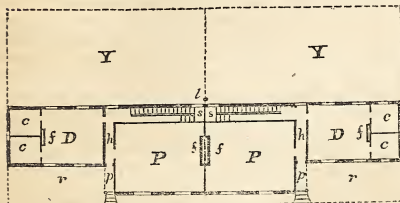
in repute, I fully concur with him in the high estimate he has given of the Dorking.

Let it might be inferred from the above that the writer has Dorkings for sale, he will state that he has not, and though he may have a few the coming autumn, still the number would hardly bear an approach to the wants already expressed.

EBEN WIGHT.

Boston, Feb. 27th, 1850.

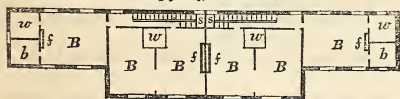
A DOUBLE HOUSE FOR A CORNER LOT.



GROUND PLAN.—FIG. 40.

IN most of our cities and larger classes of towns, from the high price and limited nature of the lots, the dwellings must, of necessity, be densely crowded together, and in most cases, are badly ventilated, and worse lighted, which often renders them gloomy, unhealthy, and far from agreeable to the occupants. Those lots, however, which are located at the corners of the streets, we conceive can be made much more commodious and far more pleasant, if a plan of building on them were adopted similar to the following:—

The adjoining cut, fig. 42, denotes a perspective view of a double three-storied house, occupying two lots, with



SECOND STORY.—FIG. 41.

an attic, basements, and a two-storied wing to each. It is designed for two tenements, being divided in the middle, by a partition wall running from the gable end back, and extending from the foundation to the top of the roof. The tenements are to be entered through a portico at each corner, and also at a door in the basement near the front gate.

The basements, in the main body of the house, may be occupied for storing fuel and many other articles of use, and that under each wing, as a kitchen. The first story of the house and wings are designed to be 14 feet high; the second story 13 feet, and the third story and attics, 12 feet each.

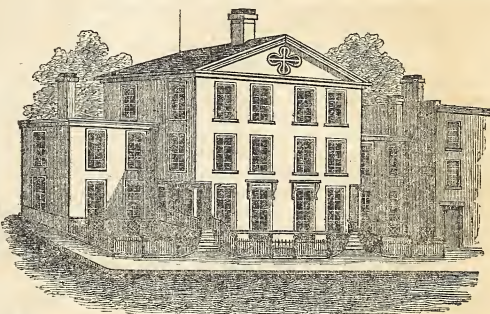
The main body of the house, which is supposed to stand back from the street 3 feet, is 22

by 50 feet; and each wing, designed to stand back 10 feet from the street, is 15 by 25 feet, one of these extending quite to the street adjacent. The house is protected in front by strong wire or iron fences, and back by a copper lightning conductor, properly pointed and connected with the moisture in the earth.

Thus it will be seen that the house has a cheerful aspect, is well lighted and ventilated on all sides, and each tenement is sufficiently roomy for a moderate-sized family within, and with more than usual accommodation without.

Description of the Ground Plan, or First Floor.—The dotted lines in fig. 40 denote the boundaries of two contiguous city lots, 25 by 100 feet each, and one of them at the junction of two streets.

Y, Y, back yards, each 25 by 50 feet; r, r, small front yards 10 by 25 feet each, in which may be planted small shrubs and flowers; P, P, parlors, 15 by 20 feet each; D, D, dining rooms, 13 by 17 feet; c, c, pantries and store rooms, 6 by 6 feet; p, p, porticos, 4 by 7 feet h, h, entries or halls, 4 by 13 feet, each, communicating with the parlors, dining rooms, and stairways leading to the basements and



PERSPECTIVE VIEW.—FIG. 42.

upper parts of the house. *s, s*, stairways; *f, f, f, f*, fireplaces or chimneys; *l*, lightning conductor.

Description of the Second Floor.—This story, both in the body and wings, is designed to be on the same level; *B, B, B, B*, fig. 41, in the main part of the house, bed rooms, 12 by 16 feet each, those in each tenement communicating with one another by means of folding doors; *B, B*, in each wing, bed rooms, 13 by 17 feet; *b, b*, bathing rooms, 6 by 6 feet; *w, w, w, w*, wardrobes or closets, 6 by 6 feet; *s, s*, stairways communicating with the first and third stories; *f, f, f, f*, fireplaces or chimneys.

The arrangement of the *third story*, is precisely the same as that in the second, in the main part of the house. Each *attic*, on the floor, is 20 by 23 feet, and 12 feet high at the peak.

Should it be desirable to increase the depth of the main body of the house, it may be extended back 15 feet. By this means, there would be room sufficient for double parlors, and an extra set of rooms in each story above.

GUANO.

WE copy below from the *Gardeners' Chronicle*, (English,) some appropriate remarks on this invaluable fertiliser, and which, to no inconsiderable extent, are equally applicable in this country.

At a time when sensible men are acting upon the well-known principle that manure is the mother of wealth, and the most effectual substitute for protective duties, it becomes more important than ever to point out the enormous frauds to which incautious persons are subject. Under the name of cheap guano and artificial manures, farmers are continually buying, at exorbitant prices, what is hardly worth the cartage.

We have repeatedly drawn attention to this fact, especially as concerns guano. We have shown that by means of loam, various kinds of refuse, sand, pounded limestone, and other substances, guano is brought into the market so ingeniously falsified as to defy detection, except under the unerring analysis of the chemist. In this way, materials possessing no intrinsic value, and as manures inert, are bought by unsuspecting agriculturists, at from £5 to £10 a ton, to the great pecuniary loss of the buyer, and to the discredit of one of the most valuable substances in nature. It is no exaggeration to apply that name to genuine Peruvian guano, in the state in which it reaches this country.

We have at this moment before us a new sample of the matters with which the guano market is just now supplied. At no great distance from one of our metropolitan railways, certain stones are collected, which, being roasted in a kiln and then crushed, form a most exact representation of the finest pale guano. Neither by touch nor sight can the most practised eye distinguish it, unassisted by the microscope. This stuff is largely consumed in the falsification of guano at the very moment when these remarks are printed; and there is no doubt that a great deal of the guano that is sold by disreputable dealers consists of it.

What are farmers to do, in order to escape this plunder? The answer is, naturally—consult the chemist—have your samples analysed. But experience shows that men either cannot or will not have recourse to this unerring guide; and, therefore, those who are desirous of saving the public from the fraudulent practices that abound in all directions, are called upon to propose some other test. Such a test is price; that is to say, when guano is offered below a certain price, the buyer may be certain either that roguery has been practised, or that the sample is so damaged as to be worthless.

It is to be remembered, that the measures taken by the Peruvian government, render the introduction of genuine guano through more than one European firm impossible. [This principle is in a good degree observed by the Peruvian government in their transactions in this country.—Eds.] All the Peruvian guano on sale has necessarily been bought of them. Now, their price by the cargo, is £9 5s. per ton,

in London or Liverpool, and £9 10s., (\$47.50,) at all other ports. No man, therefore, can sell genuine guano at a lower price, without sustaining loss. Nevertheless, we hear of it in the north of England at £8 10s. and £7 10s., prices at which the retailers must lose from £1 to £2 per ton. Does any one suppose the dealers to be patriots, immolating themselves for the sake of agriculture? Buyers may be sure that they are no such thing; and that their patriotism consists exclusively in filling their pockets at the expense of credulous farmers.

Fraud is at the bottom of all these bargains!

We have now before us analyses of two samples, offered considerably below the cost price of the genuine article. In one of these, at £8 10s., the quantity of ammonia was something more than 10 per cent.; in the other, at £7 10s., it was not quite 8½ per cent. The first contained nearly one fourth part of sand, and the other just one third of black earthy matter resembling ground coprolite, and costing, at the most, £3 a ton.

The valuable analyses of guano by Mr. Way, prove that the average per centage of ammonia in genuine Peruvian is 17½ per cent. nearly, and that the quantity of sand is not more than 1½ lbs. in every hundred pounds, on an average.

In the cheap samples here alluded to, the earthy phosphates, a most important part of the guano, were only 7 lbs. in a hundred, in one sample, and about 10 lbs. in the other. But the average amount of this substance, in genuine Peruvian, has been found by Mr. Way to be 24 per cent., or thereabouts.

The following calculation will show the position of the farmer who buys cheap guanos, such as the market tempts him with.

	Ammonia.	Phosphates.
Genuine guano, at £9 10s., contains..	17.41	24.12=41.53
Spurious guano, at £8 10s., contains..	10.10	6.80=16.90
Ditto, at £7 10s., contains.....	8.37	10.24=18.61

As the value of guano depends essentially upon its ammonia and earthy phosphates, it will be evident that if genuine guano, costing £9 10s., contains 41 lbs. of them in every hundred pounds, guano, containing 17 per cent. only, is worth no more than £3 18s. 6d.; so that the dealer who sells such stuff at £8 10s., pockets £4 11s. 6d. per ton, at the expense of the simple purchaser.

There is no evading this result, and therefore it is that farmers are cautioned against having anything to do with low-priced guano.

It is true, that he may also buy spurious guano at a high price; but against that he may guard himself by a vigilant scrutiny of the character of the person with whom he deals. There are plenty of respectable men all over the kingdom, whose reputations place them above suspicion, and to them we earnestly recommend buyers to confine their orders.

THE FARM OF L. M. STEVENS, NORWALK,
CONNECTICUT.

As I have frequently observed in the Agriculturist, invitations to those who are engaged in agricultural pursuits, to contribute to the pages of your periodical, their observations and the results of their experiments in this department of industry, I am induced to forward to you, for publication, a brief account of the improvements which Mr. Stevens, of this town, has made on his farm. It will show that, in one instance, at least, agriculture in Connecticut, is not pursued upon the old system, so justly ridiculed by Mr. Robinson, but that great improvements have been, and are being made; and I entertain no doubt that, if all the facts relating to this subject could be elicited, it would be shown that the land of "steady habits" will bear a favorable comparison, in this respect, with any state in the Union.

The farm of Mr. Stevens is situated about half a mile west of the village of Norwalk, and contains about 175 acres, of which 30 are in wood. It is elevated some 200 feet above tide water, and slopes slightly towards the southwest. The subsoil is a clayey loam. When the present proprietor came into possession, about six years ago, he found the soil, by negligent and improvident management, very much impoverished—to such an extent, indeed, that it would not pay for cultivation. The fences had fallen down, bushes were growing up in the fields, and the whole place presented a most forbidding aspect. The quantity of hay produced on these 175 acres was so meagre that it was found impossible to keep in tolerable condition, through the winter, more than three head of cattle and a horse. Not discouraged under this state of things, Mr. S. immediately on taking possession, combining his own experience with that of intelligent practical farmers in his neighborhood, and consulting the best agricultural publications, commenced a series of improvements which have succeeded beyond his most sanguine expectations. Determined to make his farm the most productive of any in this section, he has spared neither time nor expense, in securing this result. As yet, owing to the limited time he has been in possession, and the extent of his farm, many of his fields are still comparatively unimproved, and necessarily unproductive, and present a striking contrast with those that are highly cultivated. With his improved lands, however, he challenges a comparison with any farmer in the country.

He commenced his improvements by clearing the land of stone and bushes, and erecting solid and durable stone fences. Many of his fences are five feet in thickness. Most of his land is now enclosed with fences of this description. All the stone on the land has been put in fence, and the plow was not allowed to disturb the soil until this was done. When a field was thus prepared for cultivation, it received a liberal manuring, and was planted with corn and potatoes for a couple of years, and if the soil the third year was found sufficiently enriched and subdued, these crops were followed by oats,

and the land seeded. Most of his meadows now yield about three and a half tons per acre of hay; and it is a rule with Mr. S., that when a field yields less than two tons, to break it up in the spring, and plant it with corn or potatoes, to be followed by some of the cereal grains, and when fully subdued, and well manured, it is again seeded. It is a part of the system of the proprietor, to break up his fields in regular course; and when he brings the whole of his farm under cultivation, it is his intention to proceed, in this respect, with the utmost regularity and method. Thus far, by pursuing this course, he has been highly successful in reclaiming his worn-out fields, and in most cases their cultivation has been attended with profit.

Mr. S. thinks that by applying a liberal quantity of manure to his land, preparatory to seeding, it will yield for six years, without further aid, in the form of top-dressing, &c., remunerating crops of hay—the sixth year not less than two tons per acre. But in no case does he delay the breaking up of any field that produces less than this amount. He has also used ashes on his land to some extent. On one worn-out field, he applied leached ashes at the rate of 120 bushels to the acre. The product of hay on this field for three successive years, was three tons and a half per acre.

There are on the farm four barns—one, the largest, was erected last summer. Its dimensions are 36 by 72 feet, with a basement, in which are the stables. These are so constructed as to afford the greatest convenience in feeding, and for the accumulation of manure. This barn is, probably, the largest and most conveniently constructed of any in town, and it is well filled. For fertilising his land, Mr. S. has not depended upon the manure made on his farm, but makes large purchases wherever it can be found in his neighborhood. But he has found it almost impossible to resuscitate his exhausted land without pursuing this course.

Some idea may be formed of the improvements made by the present proprietor, on his farm, from a statement of some of the productions the last year. The estimate is a very moderate one, in most instances being considerably below the actual amount, and is as follows:—

100	tons of hay,
600	bushels of oats,
200	" wheat,
100	" barley,
500	" corn,

besides a large quantity of potatoes and other root crops. He also pastured 15 head of cattle. When it is borne in mind that much of this farm is still in an unproductive state, I think it will be conceded that there have been some improvements made on one farm in Connecticut. If Mr. Robinson will visit Norwalk, he will have the pleasure of seeing one man who does not follow the "American system" of "skin, shave and waste the soil;" and on one farm he will not see "the same old stone walls and rickety rail fences, bush pastures, bog meadows, alder swamps, stoney fields, and scanty, because unmanured, crops, that were to be seen in the same

place fifty years ago," and I can assure him that he will meet with a hearty welcome from Mr. Stevens.

Mr. S. has erected, during the last summer, a new and capacious dwelling house, which, for architectural beauty, is not surpassed by any private residence on the north shore of the sound. It lies pleasantly embosomed among every variety of fruit and ornamental trees. The view from it is extensive and imposing; and from the tower, the beholder looks down, as it were, upon Fairfield, Bridgeport, and other towns to the eastward; while to the north and west, the vision rests upon a long succession of hills and dales. It commands a view of the waters of the sound for many miles both to the east and west, and, also, of Huntington, and other places on Long Island. Every one who has visited the spot has not failed to be impressed with the beauty of the scene; and competent judges have declared it to be the most pleasant location on the shores of Long-Island Sound.

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Norwalk, Feb., 1850.

POULTRY INQUIRIES.

Will you be good enough to inform me, through the *Agriculturist*, the reason of your opinion, in one of the late numbers of your paper, that a large number of hens, say 1,000 will not succeed together; whether you have ever known it judiciously attempted, and if unsuccessful, the cause?

I have been very successful on a small scale, having raised 160 chickens last year, without losing one, but have been cautioned by others, not to attempt to increase my stock. If you had plenty of land, how many would you put together, and how much land would you allow for each lot, to be enclosed with a picket fence?

E. W.

New York, Jan., 1850.

There is one principle in fowl-breeding, the truth of which has been known from the days of Columella, (more than eighteen hundred years ago,) down to the present time, which is this: "The more densely poultry are congregated, the less profitable they will be; the more thickly they are crowded, the less they will thrive." We do not wish to be understood, however, to say that a large number of fowls placed together will not, in any case thrive; for, on the contrary, there are well-authenticated instances where they have succeeded to the number of several thousand. The chief objections to confining 100 or more in a limited space, are the *liability of contracting contagious diseases* from each other; the *quick exhaustion of natural resources of food*, such as worms, insects, seeds, &c., which in a small number often will constitute their entire sustenance, while the ground is bare; and the *havoc they sometimes make on garden and field crops*, when suffered to run at large. One gentleman informs us of an instance where 1,000 fowls were placed together, provided with ample food and accommodation, and less than six months

after, nearly all had died of the "gapes," or some similar disease; another says that fifty hens, with their broods, devoured more green corn, cabbages, melons, &c., in the space of two months, than their carcasses were worth when sold.

We would say that farmers, or others, who have plenty of land, such as pastures, lawns, or cultivated fields, in which their fowls could run at large, could safely and profitably keep from 20 to 50 brooding hens, and a proportionable number of cocks. With proper care and ordinary luck, these would produce from 200 to 400 chickens, and twice as many eggs, at a comparatively small cost.

NEW-YORK STATE AGRICULTURAL SOCIETY.

At the Annual Meeting of this society held at Albany on the 17th of January, the Treasurer read the yearly report showing the following general results:—

RECEIPTS.

Bal. in the treasury, Jan. 17, 1849,	433.55
Sale of mortgage given for money previously loaned,	2,000.00
From the State Treasury,	883.23
For memberships at annual meeting,	97.00
Interest on investments,	350.00
Temporary loan,	593.61
Receipts at State Fair at Syracuse,	8,144.55
John A. Taintor, Hartford Conn., for extra prize on sheep,	100.00
Sundry other sums amounting to,	72.50
	<hr/>
	\$12,674.44

PAYMENTS.

Debts of 1848,	\$2,037.15
Premiums,	4,397.66
Salary and travelling expenses of the Secretary, and salary of Messenger,	1,410.88
Expenses connected with the State Fair,	792.79
Repayment of loan,	600.00
On account of Library and Museum—Repairs of Agricultural Rooms—Incidental Expenses, &c., &c.,	1,334.66
	<hr/>
	10,573.14

Balance in Treasury, Jan 16, 1850,

\$12,674.44

The following is a list of officers appointed for the ensuing year:—

President.—E. P. Prentice, Albany.

Vice Presidents.—Ambrose Stevens, New York; Lewis G. Morris, Westchester; Anthony Van Bergen, Greene; Z. C. Platt, Clinton; J. B. Burnet, Onondaga; E. C. Frost, Chemung; Oliver Phelps, Ontario; Nelson Van Ness, Chataque.

Corresponding Secretary.—B. P. Johnson.

Recording Secretary.—J. McD. McIntyre.

Treasurer.—Luther Tucker.

Executive Committee.—B. B. Kirtland, J. J. Viele, H. Wendell, A. Thompson, Henry Wager

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BARLEY FOR SOILING.—Mr. Moore, of Georgia, considers this grain one of the best that he uses for that purpose. It should be sown on good land, and may be sown from September to February, in this latitude, and cut any time before ripe.

AGRICULTURAL GEOLOGY.—No. 2.

CLAYS being derived from the wearing down of rocks, must of course contain all the ingredients and partake of the characters which those rocks possess. Thus the depth of a soil depends upon the rock being easily decomposed, and its texture depends upon the nature of the components. The number of chemical substances which soils derive from rocks are fourteen, namely :—

Silica, or flint earth,	Common salt,
Alumina, or clay earth,	Potassium,
Lime,	Sulphur,
Potoxide of iron,	Sulphuric acid,
Peroxide of iron,	Phosphoric acid,
Oxide of manganese,	Fluoric acid,
Magnesia,	Carbonic acid.

Of these, the first three generally exist in the greatest amount, but the last seven are really the chemical elements of the soil. The oxide of manganese and protoxide of iron exist in few soils, and then only in small quantities. There are few rocks, however, which do not supply all of these substances in variable proportions.

Granite rocks, which apparently furnish so little of soil, are yet the source of all the ingredients found in soils. They are the rocks of the oldest geological period, and those found at a more recent date derive their materials from the primary granite. A knowledge of the deposition and nature of these rocks is of indispensable necessity.

This rock is called the basis or crust of our globe, from being that found lowest down, underneath every other in position, if we except greenstone trap; and if it appear at any time as a surface rock, or form those rugged hills which are scattered over Massachusetts, Maine, Vermont, and the northeast part of this state, it is because stratified rocks, or those of more recent formation are wanting. It is termed an igneous or fire-born rock for two reasons; first, because wherever found, the land is thrown into unusual elevations, having wild and sublime hills with pointed peaks, very unlike the round undulations of a limestone country, which hills have been raised by a gradual volcanic upheaval of the crust. The second reason is its crystalline character. This is due to its having been at one period melted by subterranean heat, and cooling slowly under great pressure.

Granite is generally composed of three minerals, not always found in the same proportions, the variations giving the peculiarity to the rock of the locality. These minerals are quartz, felspar, and mica. They are themselves compound substances grouped together in definite proportions, amounting to eleven in number and are arranged to form the following bodies :—

Silica,	Potash,	Fluoric acid,
Alumina,	Soda,	Phosphoric acid,
Lime,	Iron,	Water.
Magnesia,	Manganese,	

The quartz, which forms the crystalline part of granite, is composed solely of silica. When it exists in any amount, it gives a hardness to the granite, and a want of fertility to the soil.

Felspar is the pale white or reddish mineral,

the most important in an agricultural point of view, both because it decomposes readily, and because it furnishes the valuable food of plants. Its ready decomposition is due to the large quantity of potash which it contains. It yields five elements to the soil by its wearing away and is composed in 100 parts of

Silica,	68.0
Alumina,	20.0
Potash,	8.3
Lime,	2.0
Oxide of iron,	0.5
Loss,	1.2
	<hr/> 100.0

Some varieties of felspar contain as much as 17 per cent. of potash. Leaving out the lime and iron, which are in small amount, silica, alumina and potash are the chief constituents. The first is an acid, and tends to unite with alumina and potash, forming a silicate of alumina, and a silicate of potassium. In this state in the rock, they are insoluble, but when the latter becomes exposed to the air and weather, this arrangement is broken up, the carbonic acid of the air being the chief cause; this acid unites with the potassium to form carbonate of potash, and the silica is displaced as free sand, so that a decomposed felspar is thus made up of a silicate of alumina, carbonate of potassium, and silica.

Silicate of alumina is fine pottery clay, and is that which gives cohesion and the retentive property to soils; the carbonate of potash has all the properties possessed by common pearl-ash with which it is identical. In fact, all the pot and pearl ashes of commerce are derived from felspar rocks. This potash dissolves readily in water and is carried away from the side of the decaying rock into the soil below, where it is distributed through the ground by the currents of water constantly flowing through the soil.

The more felspar a granite contains, the more valuable it is, inasmuch as it forms a deeper soil, it yields more alumina, or clay, which gives cohesiveness to the soil, prevents the soluble saline matters being washed out, and contributes large quantities of carbonate of potassium, so useful a mineral to many plants. The absolute quantity which felspar can yield is much greater than could be supposed at first view, one Hessian acre, or 40,000 square feet, twenty inches deep, being able to afford 1,152,000 lbs. of potash. Hence it is that attempts have been lately made, and with success, to manufacture the commercial potashes out of felspar. It is from this abundance of potash that such crops as flax, and potatoes grow so well in granite soils, these two plants requiring potash as an essential element.

Granitic districts, not elevated much above the sea, are naturally fertile, for they contain the fine clayey matters which have been washed down from higher districts, and the warmth of the sun is greater. In fact, it is the high and exposed situation which granitic countries generally occupy, that renders them so barren. This is the case with the district between Lakes Champlain and Ontario, the granite region of

this state. Its elevation, as much as its thin soil, contributes to its infertility. So it is with the western part of Massachusetts, much of Connecticut, and the greater part of Maine, and New Hampshire, outside of which states there is but a small granite region east of the Mississippi, and south of the lakes.

We have mentioned that quartz, felspar, and mica exist in variable proportions in granite. Taking as the average, that in six parts of rock, there are three of felspar two of quartz, and one of mica, it would have the following chemical constitution in 100 parts:—

Silica,	73
Alumina,	15
Potash,	9
Magnesia and lime,	1
Oxide of iron and manganese,	2
	—
	100

The soil formed from this would be somewhat modified in composition, there being generally more sand, less clay and earthy matters; thus a soil from Clinton county afforded us by analysis, in 100 parts, as follows:—

Silica,	75.0
Alumina,	4.0
Peroxide of iron,	1.6
Salts of potash,	8.0
Common salt,	.4
Salts of lime and magnesia,	1.2
Phosphoric acid,	a trace.
Moisture and loss,	9.8
	—
	100.0

The comparison between what the rock yields and the soil contains, shows the loss which the finer matters of the soil undergo.

REVIEW OF FEBRUARY NUMBER OF THE AGRICULTURIST.

Houses for the Poor.—Convince capitalists that to build such houses will be the most profitable investment of their money, and the poor will have comfortable houses. Until that time, I very much fear that “the poor you will always have with you.” There is no animal that is of any value to man, that is so little cared for by his fellow men, as man. If this new plan of building for the poor can be carried into successful operation, so as to reduce the amount of wretchedness among that class in all our cities, it will call down blessings upon the heads of all who aid in accomplishing it.

Soaking Corn in Saltpetre.—There is one grave question connected with this matter that ought to be settled before making too free with such a dangerous article; and that is, “Will saltpetre explode?” I would as soon believe this as that soaking corn in saltpetre would prevent the crows from pulling it up. Perhaps, though, they have ascertained it will explode. The best way that I ever saw to prevent the birds from pulling up corn, is to put so much on the surface that they have no need to look for that below. Try it.

The Weeping Cyprus.—It makes me “weep” to see this country hankering after imported

trees, when we have the handsomest native trees on earth. “Ten dollars” for a little four-inch sprout! Gentlemen you are getting to be very extravagant.

Japan Cedar.—Another foreign tree. “Its wood is much used by the Japanese for cabinet work.” Because they have no better. If they had some of our American black walnut they never would use this soft cedar. I repeat, we have the best wood in the world. I know Japan well, having visited the island several times.

Farming of Mr. Hancock.—I wish Mr. H. would give us the items of his farm profits; as it strikes me that any one within reach of a city market, who manures as he does, must make it profitable.

Agricultural Chemistry.—“There is much to be learned in the science of agriculture, &c.” True, and one of the most important of all is to learn men that it is a science; for it is a most lamentable fact, that the great body of all who are doomed to get their bread by the sweat of the brow, while cultivating the earth, seem to conduct themselves as though they were determined to establish as a fact, that “ignorance is bliss.” And many of them, if by chance they happen to get your periodical in their hands, will never read these articles headed “Agricultural Chemistry,” because they have predetermined that science has nothing to do with agriculture.

Saving Manure.—The gentleman noticed under this head, is evidently not one of the above class. But then he is not a “natural-born farmer,” He has acquired his information by reading, study, and reflection, and a little exercise of common sense and enterprise.

Cure of Hydrophobia.—There is also a plant growing in this country that is said to cure this disease sure. Some person in Ohio once wrote to me about it, and sent me some seed; but when one of my old out-houses burnt, I lost both seed and name of the plant and writer. Will some one inform me if they know anything about it? I wish we could discover something to cure the hydro-mania among farmers. This is a disease that so affects the mind that they continue year after year to perform a sort of hydro-culture upon undrained soil, which would produce double crops if the owner had half as much aversion to water as the subjects of hydrophobia.

Dimensions of a Cart to Haul Shocks of Corn.—This article is worth more than ten years’ cost of the Agriculturist, to any farmer in the United States. The only wonder is, that any one should neglect or refuse to take a paper containing just such valuable articles in every number.

Patent Hoops.—Very neat in appearance no doubt, but are they half so good as hickory or iron, or much cheaper?

Underdraining Meadows with the Subsoil Plow.—I have no doubt of the advantage to all clay land by the process here recommended. But instead of using the common subsoil plow to form the drains, I would recommend a new implement. Take a two-inch round bar of iron about eighteen inches long, and weld two thin coulters two feet long to it, about a foot apart

and attach these to the plow beam and it will run easier and steadier and make a better drain in my opinion, than the subsoil plow.

Native Grasses.—How can you expect individuals to do a duty that the state society should do? Let the society offer a premium worthy of the name of one for this very information, and it will do more good than a premium for the fattest boar or biggest bull ever raised.

Who is Reviewer?—It would have better suited my pleasure and convenience to remain *incog.*, while writing these papers; for so long as I wore the mask, I could have spoken with more ease and freedom, and I think with more profit to the readers of the *Agriculturist* than I now can; I very much regret that the editors should think it advisable so far to yield to public curiosity, as to make me and my happy home in the "Valley" so widely known. However, as it is now done, it cannot be helped; and I shall endeavor to make the best of the matter, by continuing, if possible, as free and jovial as ever. But if I do not pay the editors in their own coin one of these days for this exposure, it will be because I cannot. The first leisure day I get, I intend to invade their editorial sanctum, capsize the tripod, ransack the warehouse and store, dive into the machine shop, and turn everything on the premises inside out, to the astonishment and gaze of the public. Then we shall see what we shall see. In the mean while, speed the plow—give me a clear field—and float high the flag of an old sailor's rights.

Guano—How should it be applied?—Very much after the Dutchman's directions for using lime. "In der virst blace you shall pe zhure you boot der lime on der landt." Well, what next? "Pe zhure you shall boot a leedle more lime in der landt. It vill to him goot every dime."

Sea-Marsh Mud.—This is one of the most easily-obtained and most neglected manures. It is very valuable.

Products of the Mulberry.—It is very strange that among all the silk speculations in this country, that the use of mulberry bark has never been brought into notice. Besides making cloth, it might be used for many other purposes. Small cordage made from it would be very strong. Mulberry leaves and sprouts make excellent forage, also. We have yet much to learn about the products of this earth.

American Provisions in England.—The article under this head contains some home truths, that the reader had better refer back to and take a careful note of. He may profit by it.

Value of Corn Cobs.—Look at this article again, and then if the spirit of waste is on you strong, go on throwing your cobs into the street, or any where else. Don't even use them for manure, much more for feeding stock. Your father did not consider them good for anything, and I guess he know'd. "I ain't agoin' to do nothin' daddy didn't do afore me."

A Fat Durham Ox.—This portrait occupies too much valuable room; though it might have been interesting to readers if the size and weight had been given. As it is, not one in ten will appreciate it as anything but the picture of an ox.

New-York and Erie Railroad.—This is a capital article, and will be read with a great deal of interest in places where the readers will hear of this road for the first time.

Products of Illinois.—A very fair picture, but do you grow rich upon this rich soil? How is it with fever and ague, flies and mosquitoes, and some other little things I formerly encountered travelling over the prairies, when looking after my wild lands that I was so unlucky as to purchase during the excitement of '36? So much for listening to the advice of some very good, apparently *disinterested* friends! But you don't bite me again, my good fellows.

Drilling Grain—Thick and Thin Sowing.—There are some facts set forth in this article that ought to be well investigated. I have always been an advocate of *thick* seeding. I am much in favor of drilling wheat, and one objection I have had to drills is, that they do not use seed enough. "Nugator" should have given us the quality of his soil, to enable us to form a better opinion of his practice. Why not "inform us who he really is," and who is that "honorable gentleman in these parts," that has tried experiments? If there is any *light* in Accomack, pray let it *shine*.

Wheat Bran, as a Fertiliser.—What next? Who says "that a handful to the hill of corn will double the crop?" Let us have names, places, dates, and full particulars from the bran experimenters themselves.

Clover-Sowing Machine.—Another article worth ten years' subscription. So is wire fences.

Profitable Farming.—There are thousands of places in the United States, where just such results might be produced by just such a course as here detailed. I think this gentleman must have read something besides law books, to enable him to "take the kinks" out of such land.

Georgia Farming.—A course that might be profitably followed by half the farmers and planters in the Union. Too much land is the great error of the whole farming interest.

Improvement in Sugar Making, by the use of bi-sulphate of lime, as discovered by Melsens, if the accounts are true, is one of the most important discoveries of this age of wonders. Because sugar is no longer a luxury, but a necessary of life, and healthful food; and any process which tends to cheapen it, will prove a public blessing.

REVIEWER.

AMOUNT OF FOOD RAISED ON AN ACRE.

THE amount of human food that can be produced upon an acre is worthy of great consideration. One hundred bushels of Indian corn per acre is not an uncommon crop. One peck per week will not only sustain life, but give a man strength to labor, if the stomach is properly toned, to that amount of food. This, then, would feed one man 400 weeks, or almost eight years!

Four hundred bushels of northern potatoes, can also be raised upon an acre. This would give a bushel a week for the same length of time; and the actual weight of an acre of sweet potatoes is 21,344 pounds, which is not consider-

ed an extraordinary crop. This would feed a man six pounds a-day for 3,557 days, or nine and two-thirds years!

To vary the diet, we will occasionally give rice. This has been grown at the rate of ninety-three bushels to the acre over an entire field. This, at 45 lbs. to the bushel, would be 4,185 lbs.; or, at 28 lbs. to the bushel, when hulled, 2,604 lbs., which, at two pounds a-day would feed a man 1,302 days, or more than three and a half years!

Upon reflection, it is not very wonderful that so many non-producers are able to find food, when we see how many mouths one laborer can fill.

CULTIVATION OF THE SWEET POTATO.

HAVING seen an article from the transactions of the New-York State Agricultural Society, for 1848, written by S. S. Ridder of Alabama, on the cultivation of the sweet potato and which, in



SWEET POTATO.—FIG. 43.

many particulars, is defective or not fully explanatory, I will give you our manner of cultivating that valuable root in this section, which is done on a pretty large scale, for the Philadelphia and New-York markets, and by others only for family use.

As soon as the frost is well out of the ground, which is generally from the middle to the last of April, in this latitude, make a hot bed by taking some rough boards, setting them on edge in any convenient place, where the bed will have the rays of the sun, and out the way of pigs or poultry, and form a box 4 feet wide and length according to quantity of the tubers, or sets, to be put down, and 15 inches deep. Put fresh manure from the horse stable, not too coarse nor too fine; tread it down until it is about 12 inches deep and then throw on a few buckets of water so as to make it damp (not wet). Now put on a layer of sandy loam one and a half inches deep; place your potatoes on promiscuously about one inch apart and three inches from the

boards which form the box; cover the potatoes with the same loam as before, to the depth of full 2 inches. Do not wet the loam any more than what is natural to it; cover the bed all over with hay or fine straw to the depth of 6 inches, when pressed down, which do by putting on some loose boards so as particularly to shed heavy rain.

Now examine your bed every day, by uncovering a small place near the centre, and thrust in your hand, to feel if it is becoming too hot. If too warm, uncover for a day or so, and be sure to cover up the sets at night, and keep them covered until some of the sprouts make their appearance above the surface, which they will generally do in from eight to fifteen days; then take off the cover and put it on no more, unless it should turn cool, and bid fair for frost.

The potatoes should not be taken out of the bin or hole where they have been kept through the winter, until the hot bed is ready to receive them; for they will injure by wilting or drying. Be sure to water the hot bed after the plants get to growing. If the weather should prove dry, it will generally yield three or four crops of plants. So much for the hot bed.

Now choose the sandiest piece of land on the farm. If it is poor, so much the better, for grass and weeds will not spring up and choke the crop as it will on land already rich. Give it a good coat of well-rotted manure, plow it in flat and tolerably deep; let it lay a week or so, and then run a harrow over to pulverise and keep the soil clean. When your plants are nearly large enough to transplant, ridge up your land with a one-horse plow, about 3 feet apart; rake off the top of the ridge even and flat. Let it remain until a shower of rain; or, if the weather should be dry, plant out just before night, and water well. The plants are old enough for planting out when the leaves get their natural size, and will bear pulling.

In taking up the young plants, place the left hand on the potato, when you go to draw them from the bed, and pull up with the right. Plant them about 12 inches apart on the ridge. Do not make a small hole with a stick, as is usually the case to insert the plant, but "grabble" a hole with the hand, so that the roots will lay straight.

Some farmers prefer planting in hills, which can be easily done with a weeding hoe, after the ridges are made as directed above; put two plants in a hill. Weed or dress the crop with the hoe, as soon as any grass makes its appearance; then plant between the ridges and earth up with the hoe, when the vines get to running pretty thick over the ground; keep the weeds out by pulling by hand or otherwise, until the vines cover the ground. When they are out of danger and need no more tilling, pull the vines loose from the ground, if they should take root by being covered up, or by heavy rains. Set out until about the 25th of June; they will generally mature in any latitude where the pumpkin will thrive.

To keep sweet potatoes through the winter, brick up a bin or hole under the cook house

floor and immediately in front of the hearth, or under the stove. Put them in dry and keep them so; or they may be kept in boxes or barrels by keeping them moderately cool. Fill up with potatoes and then pour in dry sand from the road until it well fills in among the potatoes.

JOHN G. CHAMBERS.

Black-Swamp Farm, Kent Co., Del. Jan., 1850.

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MEDICINE FOR HORSES.

As a general rule, any medicine, *except an emetic*, is good for a horse that is good for the same complaint in the human system. Multiply an ordinary dose for a man by nine, for a common horse, or even by twelve for a very large horse.

The above was obtained upon a late visit to Col. Wade Hampton, of South Carolina, and few men in this country are more competent to give prescriptions of the kind than that gentleman. He has been long known as one of the best breeders of horses, in the United States, as well as one of the first-rate cotton planters and stock breeders in the south. S.

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SUCCESSFUL EXPERIMENT IN GROWING THE OSAGE ORANGE.

In a late conversation with Mr. Francis Bulkley, of Columbia, S. C., he informed us that from twelve Osage oranges he got about 1,200 plants. His plan was as follows:—He took the fruit in February and cut around the centre so that he could pull it in halves, without cutting and destroying any seed, which it would do to cut entirely through. He then commenced cutting small pieces from the edge and peeling up flakes to the centre, each piece of which contained two or three seeds imbedded in the pulp. These he immediately planted in moist, rich earth, in drills, and not over two inches deep.

In April and May, all apparently came up and grew in the course of the summer, some as high as five to seven feet. In December, he carefully took them up, cutting off the tap root and leaving it in the bed to grow, or planting it, and other root cuttings to make more trees. The tops he cut off within two inches of the ground, and then set out the stumps for a hedge in two rows, six inches apart, and two feet between the plants, with one in each row, opposite the space in the other, thus Before setting them in the hedge row, he dug a ditch two feet wide and two feet deep, and filled it with rich mold, taken from fence corners and other rich spots.

After the seed is planted, and while the plants are small, and after the hedge is set until the plants get a start, in case of drouth, it would be advisable always to give artificial waterings.

Mr. Bulkley is satisfied that by pursuing this course, wherever the fruit can be obtained green, that an average of one hundred plants can be obtained from every orange. He estimates that there is fruit enough every year in Columbia, to make 200,000 trees. He never has succeeded in vegetating one seed in fifty after they became dry. He thinks that in his latitude a pretty

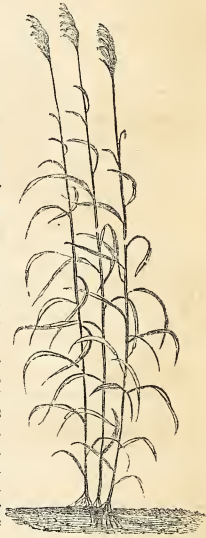
that when well set, it will stop all animals, man good hedge can be grown in three years, and included, and will not require so much labor to keep in repair as rail fence; for that has to be renewed as often as once in eight years, in all the south.

We would remark that it would not be difficult to procure Osage oranges from Louisiana, as they could be sent to New York as well as sweet oranges.

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To CORRESPONDENTS.—Please to write short, practical articles upon something particular, instead of long essays upon agriculture in general. The former are perused by our readers with avidity, while the latter are generally skipped, as dull and uninteresting.

•••
INDIAN OR GRAND MILLET.

THE grand or Indian millet, (*Sorghum vulgare*), as its name implies, is a native of India, where it is much used for feeding poultry, and is frequently sent to Europe for the same purpose. It is much cultivated in Arabia and most parts of Asia Minor; and has been introduced into Italy, France, Spain, Switzerland, and some parts of Germany; also, into China, Cochinchina, and the West Indies, where it commonly grows five or six feet high, or more; and, being esteemed hearty food for laborers, it is called "Negro Guinea corn." It has been raised on a limited scale at the south, and doubtless would succeed in all the middle and western states, and perhaps still further north.



MILLET.—FIG. 44.

The leaves of this plant are long and broad, having a deep furrow through the centre, where the midrib is depressed in the upper surface, and is very prominent beneath. The leaves are about two feet and a half long, and two inches broad in the middle, including the stalks, with their bases. The flowers come out in large panicles at the top of the stalks, resembling, at their first appearance, the male spikes of Indian corn. They are succeeded by large roundish seeds, which are enveloped in chaff, and guarded from birds, by long bristles, or awns. There are two varieties, one distinguished by black, and the other by red-husked seeds.

The flour of this grain is very white, and is said to make good bread or cakes. In Italy, it is chiefly used for feeding poultry and pigeons.

It is sometimes fed to horses, cows, and swine. It is stated, however, that cattle fed on the green herb, are apt to swell and die, but thrive on it when dried.

This millet may be cultivated, in the same manner as our broom corn, and on the same kind of soil; or it may be sown broadcast, after the manner of oats or other kinds of grain.

THE FOREST SCENERY OF CALIFORNIA.

I WILL now proceed to give you an outline of the forest scenery of California, so far as I am enabled to do after travelling above 500 miles on the Sacramento and San Joaquin Rivers and their tributaries.

In the immediate vicinity of the city of San Francisco, there are no trees, the soil being miserably sterile, and supporting only a few decrepid shrubs and scrub oaks. As you ascend the extensive bay, you soon perceive the valleys and hill sides in many localities sparsely covered with patches of the evergreen oak, low set on short bodies with dense heads, resembling, when seen at a distance, our medium-sized apple trees. No other tree is seen below the union of the Sacramento and San Joaquin, except now and then a Californian buckeye which here forms a small tree, or rather large shrub, of about 15 feet in height. After passing the junction alluded to, there are no more trees seen while ascending the San Joaquin until you arrive at Stockton, which is 150 miles from San Francisco, and about 100 above the junction, save some few marsh willows of pigny growth; the whole intermediate space being one vast marsh of "tula," or rush, as far as the eye can reach.

In ascending the Sacramento, and after passing through a region of tula, the shores abound with two species of willow, a few ash, and alder trees, some oaks, a species of negundo, platanus, cephalanthus, all of moderate stature and decrepid appearance, with the wild grape overhanging many of the smaller trees and sometimes those of 30 feet in height; and the mistletoe and long moss, pendant from many oak trees, the former sometimes growing also on the alder. A species of blackberry, and a rose with profuse corymbs of 15 to 20 flowers, are seen growing on the river banks. The Californian white oak, which I shall describe hereafter, is the only tree growing at Stockton, and the only lofty one besides the platanus, growing at Sacramento City.

The immense forest region of this section of California, lies within 30 or 40 miles of the summit of the Sierra Nevada, and is comprised principally of pines, cedars, and arbor vite. Many of the most majestic pines grow within five miles of the loftiest peaks, and are unsurpassed and perhaps unequalled in dimensions by any species of the same family found in any other section of the globe. These resinous trees seem only suited to a cool situation, as they nowhere arrive at the same dimensions when found growing in warmer localities, and they are never met with at all until you ascend the mountain region about 180 miles above San Francisco; and the dimensions of the respective trees con-

tinue to be enlarged as you advance, until you have reached the very elevated region before referred to. The largest coned pine, which is called here "gum or sugar pine," on account of the pitch which exudes from it, and of its saccharine flavor, attains a height of 250 to 300 feet in the most favorable positions! but in the arid regions of the lower ranges of mountains it is limited to 100 feet. It spreads its lateral branches to a considerable extent, the leaves are eight inches long, light-green, and three in a sheath; the cones, before opening, are 20 inches in circumference at the base, and of proportionate length; the seeds similar in size to those of the European stone pine, (*Pinus pinea*), and equally palatable, and are anxiously sought for and eaten by the Indians, and by the Spanish inhabitants. The new cones are formed the beginning of October, and have the shape of a rosette, and the mature ones shed their seeds towards the middle of the same month.

The small-coned pine attains an equal stature, under the same circumstances, but is of spiral growth, the branches extending but a moderate distance, and forming a contracted pyramid; the leaves are nine inches in length, dark-green, and three in a sheath; the cones of this species are only one third or one fourth the size of those of the preceding species; the seeds are small, and shed at the end of September. The young cones are formed in October.

The Californian cedar, growing on the Snowy Mountains, attains a height of 200 to 250 feet, is one of the most splendid trees of its class, and is found in the loftiest regions, intermingled with the two before-named pines. The arbor vite attains a height of about 30 feet on the rivers near Sacramento and Stockton, after you have ascended the first range of mountains, but on the Sierra Nevada it rises to the height of 80 feet or more, forming a regular and beautiful cone. The foliage closely resembles that of the Thuja siberica, and is regularly plicate and highly ornamental.

Photinia serrulata is found around the harbor of San Francisco, and is also plentiful as soon as you ascend the mountainous districts, and it is everywhere the most splendid evergreen shrub of California, for the beauty of its foliage as well as for its flowers, and also when in fruit. Its large radiating panicles of blossoms begin to expand in June, and continue in succession for a lengthened period; they are white and fragrant, and are succeeded by oval orange-colored berries, the size of small currants, in very large compound panicles, which are at maturity in October, but remain a long time, and are highly ornamental. I measured some specimens of this shrub, whose main stems were a foot in diameter and the branches spreading over a circumference of 35 feet.

The next evergreen in point of beauty, and which by many might be deemed superior to the preceding on account of its distinctive character, is a magnificent laurus, or bay tree, which attains a height of 20 feet with a diameter of four to five inches. It is rather a large shrub than a tree, with a profusion of branches thick-

ly clad with foliage, the bark yellowish-green, the leaves deep-green with an even border, lanceolate, about four inches long, and one broad, alternate, but irregularly placed around the branches at about half an inch from each other. It is of very thrifty growth; the fruit ovate, about the size of a small lime, and usually two or three together, rendering it highly ornamental. They remain green until October, when they become straw-colored, and attain their maturity. Both the fruit and the leaves are odoriferous and pleasant, having the same fragrance as the West-Indian bay, from which "bay rum" is made.

The flowers I have had no opportunity of seeing, but the flower buds for the ensuing spring were already formed at the beginning of October, when I discovered this most beautiful tree, which I consider the greatest acquisition I have yet met with in California. The *Photinia serrulata*, however, cannot be deemed a new acquisition, it having been cultivated for some years in my gardens on Long Island and elsewhere. I shall transmit you a continuation by the next steamer.

WM. R. PRINCE.

Sacramento City, Dec., 8th, 1849.

Ladies' Department.

WHAT IS DIRT?

OLD Doctor Cooper, of South Carolina, used to say to his students, "Don't be afraid of a little dirt, young gentlemen. What is dirt? Why nothing at all offensive, when chemically viewed. Rub a little alkali upon that 'dirty grease spot' on your coat, and it undergoes a chemical change and becomes soap. Now rub it with a little water and it disappears; it is neither grease, soap, water, nor dirt. 'That is not a very odorous pile of dirt,' you observe there. Well, scatter a little gypsum over it and it is no longer dirty. Everything you call dirt, is worthy your notice as students of chemistry. Analyse it! Analyse it! It will all separate into very clean elements.

"Dirt makes corn, corn makes bread and meat, and that makes a very sweet young lady that I saw one of you kissing last night. So, after all you were kissing dirt—particularly if she whitens her skin with chalk or fuller's earth. There is no telling, young gentlemen, what is dirt. Though I must say that rubbing such stuff upon the beautiful skin of a young lady is a dirty practice. 'Pearl powder,' I think is made of bismuth—nothing but dirt."

TOASTED OYSTERS.

THIS is a very common dish in lower Virginia, and is the best way in which this delicious shell-fish is cooked. It can only be done, however, in that region, or in the proper cooking utensils, procured from some of the vast shell-marl deposits of the South-Atlantic states. These are antediluvian scollop shells, about as large as a full-sized coffee saucer, into which the

oysters are opened and laid around singly, without any of the liquor; and then the shells are set upon embers, where the heat of the fire will also strike the upper surface, and cooked slowly until done. They are then brought hot to the table, setting each shell upon a plate, and are eaten direct from the shell, after seasoning with butter, pepper, &c., to suit the taste. No seasoning should be added while cooking. They are truly delicious, having all the flavor of roasted oysters—only, a little *more so*. Any of the York-River oyster boats could procure any quantity of the right kind of shells, to supply the New-York Market. The shells will last a long time, if taken care of. No earthen nor metal vessel will answer the purpose, for this would make quite a difference in the flavor.

COUVE TRONCADA.—This is a species of mammoth cabbage, which grows in Portugal to a height of four or five feet. The seeds are sown and treated exactly like those of the common cabbage. The most valuable parts of the plant are the heart and tender flower buds, which, when boiled tender, and served up with pepper, salt, a little garlic, olive oil, and vinegar, form a most delicious dish with the Portuguese. The white ribs, also, when cooked, somewhat resemble seakale. The outer leaves and chopped stalks make excellent food for milch cows.

PORTUGUESE METHOD OF BLEACHING LINEN.

IN Lisbon, Oporto, and other large towns in Portugal, the inhabitants wash or bleach their clothes in the following manner:—Into tubs of a convenient size, they first place a layer of clothes, over which they sprinkle a thin layer of hen or pigeon manure, mixed with wood ashes in the proportion of one peck of the manure to two pecks of the ashes; then another layer of clothes, and again another layer of ashes and manure, and so on, till the tub is full. Then they pour over the clothes boiling-hot water until the tub is filled, and let them soak for 24 hours, after which they are taken out, rinsed in cold water, boiled and washed with soap and water the usual way.

Next they are dried, and afterwards spread out on the grass for one or two bright sunny days, occasionally sprinkled with clean water. In this manner, the most dingy clothes will become of a beautiful pure white.

EMBROCATION FOR WOUNDS.—Take of

Spirits of ammonia,	1 oz.
Spirit of wine,	1 oz.
Tincture of Belzoni,	1 oz.
Tincture of organum,	1 oz.

mix well, and apply with a feather to wounds, bruises, or sprains.

NEW GREEN-HOUSE PLANT.—Few recent acquisitions to the greenhouse, are of more merit than the Asiatic *torrennia* (*Torrennia asiatica*). Its exquisitely-shaded flower is small, and of a delicate light-blue, shaded towards the top with a rich, purplish-blue.

Foreign Agricultural News.

WE are in receipt of our foreign journals per steamer Canada to 24th of February.

MARKETS.—*Ashes* falling. *Cotton*, a decline of $\frac{3}{4}$ d. per lb. *Grain* of all kinds a slight reduction. *Provisions*, the prices the same as per our last with brisk sales. *Tobacco*, firm. *Wool*, an advance of 2d. per lb., equal to 4 cts. of our money.

Small Pox in Sheep.—A renewed outbreak of small pox among the sheep of Norfolk is announced in the English papers.

Important to Stock Breeders.—Farmers are strongly recommended to wash all roots before giving them to cattle. Professor Dick states that he has seen 100 lbs. of earth taken out of a horse which had been destroyed by it.

Amount of Ruta-Baga Turnips Consumed by Stock per Day.—An ox weighing 40 stone, (560 lbs.), will eat about 100 lbs. of ruta-baga or Swedish turnips a-day along with straw or chaff. Ten sheep of 64 lbs. each, will eat about 200 lbs. in the field, and rather less in the house.—*Agricultural Gazette.*

Fixation of Ammonia.—100 gallons of undiluted urine will give off so much ammonia as to require 86½ lbs. of gypsum, 139 lbs. of green vitriol, or 123 lbs. of Epsom salts to furnish sulphuric acid to "fix" it. The Epsom salts are the best to use—the iron salt the worst.—*Ibid.*

Pruning Résinuous Trees.—The worst time to prune these is in the spring when they are beginning to grow, the safest in autumn or winter.—*Ibid.*

To Decompose Dead Animals for Manure.—The most rapid way to effect decomposition of dead carcasses is to mix them with something already decomposing. Chop the flesh up, and lay it in alternate beds with hot stable manure, and cover over with vegetable mould, burnt earth, or charred stuff of any kind. Any of these will detain the effluvia.—*Ibid.*

Discovery of a Yellow Camellia.—Mr. Fortune, the English traveller and botanical collector, has lately unexpectedly discovered a real yellow camellia. It proves to be one of the anemone-flowered race, the exterior petals being French white, and the central ones of a rich primrose yellow. He found it in blossom in a nursery garden in one of the towns in the north of China, which he had visited in search after tea plants.

Strength of Gutta-Percha Tubing.—A trial of the strength of gutta-percha tubing took place a few days ago at Stirling, in the presence of a committee of the town council, with a view to its applicability for extinguishing fires, flushing drains, &c. The tubing, which was one-and-a-half inch bore, was attached to the water pipes; and, although the pressure of the water is perhaps the greatest in the kingdom, (being about 450 feet,) not the slightest effect could be perceived upon either the tubing or the joints, whilst the same pressure upon strong leather hose scattered the rivets in all directions.—*Bell's Weekly Messenger.*

Important Discovery.—Mr. Smith, of Deanston, has made an important discovery in the treatment of the fleeces of sheep, whereby the fleece of the living animal is rendered repellant of water by a simple and cheap process; so that the sheep are defended from the pernicious effects of wet, whilst the natural emanations from the body remain unchecked, and the growth and quality of the wool are improved. The effect of this waterproofing has been practically tested on some of the most exposed sheep walks in Scotland, and with signal success. This process, it is expected, will effectually supersede the laying with tar and butter, and other salves, at one third of the cost, whilst the wool

will be preserved white and pure. Though the laying or salving of sheep hitherto has been applied chiefly to flocks on mountainous and exposed situations only, it is believed that the new mode of treatment will be found beneficial to flocks on the most sheltered and southern pastures; and that it will go far to prevent or mitigate that destructive disease, the rot, which is neither more nor less than dysentery, caused by the continuance of wet weather, whereby the fleeces of the sheep become soaked with rain, and produce the same effect as is produced on man by wet clothing. It is also presumed that this mode of treatment will lead to the successful introduction of the Spanish sheep, and the alpaca, which are known to have suffered from the prevalence of wet weather in this country. Mr. Smith has secured patents for the United Kingdom and the colonies.—*Scottish Paper.*

To Have Fresh-laid Eggs all Winter.—In February or March, set a broody hen, with a sitting of game eggs. The black-breasted reds I prefer. The pullets, if liberally fed, will begin to lay in September, and will continue laying through the winter. I have several hens which have been in an egg and have laid an egg in 20 weeks. If one of them should go broody after laying a nest of eggs, put it in a coop two or three days, and reduce its food considerably. The hatching fever will then go off, when it may be released, and in about three weeks, it will begin to lay again. I have practised this plan several years with invariable success. The fowls must be warmly housed and well fed.—*Agricultural Gazette.*

White Zinc Paint.—The Society for the Encouragement of National Industry, in Paris, has granted a medal of gold worth 3,000 £ to M. Leclaire for his substitution of white of zinc for white of lead. It appears that, from 1838 to 1847, no less than 3,142 persons entered the Paris Hospital, attacked by disease, originating in the use of lead. Of these, 1,898 persons worked at white lead or at minium; there were also 712 painters, 63 grinders of colors, and 10 preparers of visiting cards with porcelain surface. Since 1846, no person has been attacked in M. Leclaire's establishment.—*The Builder.*

The Use of Ammonia in Green Houses.—I occasionally used the carbonate of ammonia last season with benefit by applying a small lump of it, moistened, in the way you direct, to the hot pipes; or sometimes I dissolved a small quantity in water, and with it, from a fine rose or the engine, sprinkled the hot pipes and boiler, thereby filling the house with vapor holding the ammonia in solution, which, when condensation took place, conveyed it to the plants somewhat after Nature's own way. While on this subject, I may observe, that of late, ammoniacal gas has been used as "more effective, easier of application than tobacco or other established remedies" for the destruction of the insects that infest plants, and some of your readers may be inclined to try it.—*Gardeners' Chronicle.*

Choice of Perennial Flower Seeds.—In the way of biennials or perennials for partial protection, or entire exposure in the flower garden, we may particularly instance the following, which may be raised from seeds:—First and foremost we place the *Humea elegans*, which requires growing one year as a frame plant, to prepare it for planting the next year; it is by far the most graceful and ornamental half-hardy plant which finds a place in the flower garden. *Stachys*, *pentstemons*, and *antirrhinums* are pretty and useful plants, which require very little protection; and among those which do not need any protection, the most striking are *alstromerias*, the hollyhock, perennial larkspurs, (*Delphinium*), monkshood, (*Aconitum*), and several species of *dianthus*, *campanula*, and *papaver*.—*Ibid.*

Editors' Table.

A WORD TO CORRESPONDENTS.—If you have any commiseration for an editor's eyes, and wish your articles printed correctly, please to observe the following rules:—

1st. Furnish yourselves with good pen, ink, and paper, and then write in an open round hand. Take particular pains with proper names, technical, scientific, and foreign words. These ought to be written as plain as print; for their meaning cannot be guessed from the sense of the context, like words in the body of a sentence.

2d. Only write on one side of the paper; and choose such as is firm, but so thin that three or four sheets with wafer and envelope, will not weigh quite a half ounce. Then they are charged single postage only.

3d. As to the subject, report some particular experiment or improved method of cultivation, the properties of fertilising matter, and the best method of applying it to crops, the diseases and remedies of domestic animals, new implements and improvements in them.

4th. Avoid writing on agricultural subjects in a general point of view, as this is too much like the thousand-and-one set speeches annually delivered before the agricultural societies; besides it smacks of sermonising; and however good the matter, the manner is generally distasteful to readers; and if we publish such articles, they are sure to be skipped by the great mass as a regular bore.

5th. Leave all pointing except periods, to be made by the printer, as he understands doing this better than most writers. He will also correct all faults of orthography and grammar, and when necessary, mend and correct the phraseology. So write away now without fear; if rejected, it can do no harm, if printed, it may do much good.

MR. SOLON ROBINSON was in the valley of the Rappahannock the last we heard of him. From there, he was going to the Eastern Shore of Virginia, and then to Delaware and New Jersey, in which states he will spend the principal part of April.

MR. A. SHERMAN did not go south as was anticipated in our last. His tour, during April, will be in the country, within a circle of about fifty miles around the city of New York. It will be recollected that both of these gentlemen are our travelling agents.

AGRICULTURE IN INDIANA.—According to an estimate made by Mr. Merrill, late President of the State Bank of Indiana, the agricultural products of the state during last year were 45,000,000 bushels corn; 8,000,000 bushels wheat; 18,000,000 oats, rye, barley, &c.

THE QUADRUPEDES OF NORTH AMERICA, by John J. Audubon, F. R. S., &c., &c., and Rev. John Bachman, D. D. &c. &c. V. G. Audubon, 34 Liberty st., New York. Number iii., contains five spirited life-like engravings, with a strictly scientific and popular description of the animals delineated. We trust the reading farmers of the United States are not doing themselves and their children the injustice of withholding this valuable work from their libraries.

AMERICAN LIVE-STOCK INSURANCE COMPANY.—This is the title of an association, recently incorporated in Indiana, with a capital stock of \$50,000. Its object is to effect insurance on live stock, as horses, cattle, sheep, &c., from death by accident or disease. This is a novelty in this country, though common in England and other European countries. We have no time just now, to investigate the subject, but will speak of it again in a short time. John G. Bowman is President of the company, and B. S. Whitney, Secretary.—Vincennes, Indiana.—*Ohio Cultivator*.

THE VALUE OF OIL IN INDIAN CORN.—According to Professor Johnston, the popping properties of corn depend upon the expansion of the oil, on the application of heat. A barrel of pop corn would give six barrels of popped corn; while the rice corn, which contains a still larger proportion of oil, would give thirty-six barrels of popped corn from one unpopped; while there are some kinds, which, from the absence of oil, would not pop at all. The structure of grains is a most important study. It is particularly important in its bearing upon the feeding of stock. The same explanation he applied also to wheat, which he said contains a smaller proportion of oil than corn.

CURIOS FACT.—The house and barn of Mr. Abijah Chamberlain, near Hightstown, N. J., stands on a dividing ridge. The rain which falls on the west roof runs off into a rivulet, which, after coursing 30 miles, empties into the Raritan; while that which falls on the east roof, after a winding course of 13 miles, finds its way to the Delaware.

SELECTION OF SEED CORN.—The following extract from a letter received from one of the best farmers in Massachusetts shows with what care, intelligent people select their seed corn, and what are the results and inducements for the practice:—

"I have plenty of corn in crib—good yellow flint, which does well on our light sandy land, but we never like to trust to our cribs for seed corn, as it may not come up well, from the sweating it gets more or less, by being put up in a large body. I should not like to use it, and could not recommend it to others. I suppose my practice, is that generally pursued by farmers in this vicinity. We select at harvest time, and dry with care, as much corn as we think will be required for seed the next year, never using corn from the crib for seed, except with reluctance and in case of emergency. I experienced a loss of some two hundred dollars in one season, from using sweated seed corn, purchased from the crib, and recommended safe by a good farmer who should have known better."

PROFITS OF POULTRY RAISING.—At the Poultry Convention recently held in Boston, Col. Minot Thayer, of Braintree, said he had been much engaged in fowl raising for fifty years. His farm consisted of about 200 acres, and was acknowledged to be a good one; yet with an outlay of \$25, in connection with its fowl department, he had derived more profit than from all the rest of his farm. It was his opinion that good policy required the keeping of but few fowls; he usually had not more than 100; with two acres of land and a running brook, that number would be very productive. His practice was to have two or three houses in which to shelter them in winter; these houses were made of stone on three sides. It was necessary, he said, to give the hens meat or fish in the winter, when they would lay eggs as freely as in the summer.

Mr. Giles, of Providence, said he agreed with Col. T., that a few fowls would be more profitable than a large number, unless proportionably great pains were taken in their management—200 or 300 might be kept on two or three acres of land. He believed that the raising of fowls, in connection with a tract of four or six acres of land, having a stream of water running through it, might be made to yield more profit than any farm in Massachusetts or Rhode Island, of 200 acres. His practice was to keep them warm, and not allow them to go out in the coldest days in winter. Their houses should be cleaned as often as once a week, and a little slacked lime strewed in them. In summer they should roost out upon the trees. If the raising of eggs is the object with the farmer, he was of the opinion that the Dorking and the white Shanghae are the most profitable fowls.

Review of the Market.

PRICES CURRENT IN NEW YORK, MARCH 13, 1850.

ASHES, Pot,	100 lbs.	\$6.50	@	\$6.50
Pearl,	" do.	5.87	"	5.94
BALE ROPE,	" lb.	09	"	11
BARK, Quercitron,	" ton.	39.00	"	40.00
BEANS, White,	" bushel.	75	"	1.25
BEEWAX, American, Yellow,	" lb.	19	"	23
BOLT ROPE,	" " 10	"	"	11
BONES, Ground,	" bushel.	40	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" " 15	"	"	25
Shipping,	" " 09	"	"	15
CANDLES, Mould, Tallow,	" " 10	"	"	13
Sperm,	" " 25	"	"	47
Sicarine,	" " 25	"	"	30
" " 05	"	"	"	10
CHEESE,	2,000 lbs.	5.00	"	6.00
COAL, Anthracite,	" lb.	11	"	13
CORPAGE, American,	" " 10	"	"	15
COTTON,	" yard.	15	"	16
COTTON BAGGING, Am. hem,	" lb.	30	"	40
FEATHERS,	" " 08	"	"	09
FLAX, American,	" " 4.00	"	"	5.25
FLOUR, Ordinary,	" bbl.	5.50	"	6.50
Fancy,	" " 6.50	"	"	6.75
Richmond City Mills,	" " —	"	"	—
Buckwheat,	" " 2.75	"	"	3.00
Rye,	" bushel.	95	"	1.30
GRAIN—Wheat, Western,	" " 58	"	"	1.15
" Red and Mixed,	" " 58	"	"	60
Rye,	" " 55	"	"	63
Corn, Northern,	" " 65	"	"	70
" Southern,	" " 38	"	"	45
Barley,	" " 45.00	"	"	50.00
Oats,	" " 34.00	"	"	35.00
GUANO, Peruvian,	" 100 lbs.	56	"	63
Patagonian,	" ton.	210.00	"	215.00
HAY, in Bales,	" 100 lbs.	160.00	"	200.00
HEMP, Russia, Clean,	" ton.	140.00	"	175.00
American, Water-rotted,	" " 06 1/2	"	"	09 1/2
" Dew-rotted,	" " 10	"	"	18
HIDES, Dry Southern,	" lb.	2.00	"	10.00
HOPS,	" 100 lbs.	5.12	"	5.25
HORNS,	" 100 lbs.	05	"	07
LEAD, Pig,	" lb.	2.75	"	3.00
Pipes for Pumps, &c.,	" bbl.	14.00	"	14.12
MEAL, Corn,	" hhd.	24	"	28
Corn,	" lb.	16	"	31
MOLASSES, New-Orleans,	" gallon.	1.62	"	1.88
MUSTARD, American,	" lb.	1.25	"	1.75
NAVAL STORES—Tar,	" bbl.	1.00	"	1.20
Pitch,	" " 2.44	"	"	2.75
Rosin,	" " 32	"	"	34
Turpentine,	" gallon.	90	"	93
Spirits of Turpentine,	" " 2.00	"	"	2.25
Oil, Linseed, American,	" " 60	"	"	70
Castor,	" " 1.25	"	"	1.50
Lard,	" 100 lbs.	75	"	1.25
OIL CAKE,	" bushel.	1.75	"	2.00
PEAS, Field,	" " 2	"	"	2.00
Black-Eyed,	" " 2.00	"	"	2.75
PLASTER OF PARIS,	" ton.	1.12	"	1.25
Ground, in barrels of 300 lbs.	" " 8.50	"	"	11.00
PROVISIONS—Beef, Mess.,	" bbl.	5.75	"	8.00
" Prime,	" " 06	"	"	12
" Smoked,	" lb.	04	"	06
" Roked, in Pickle,	" bbl.	10.00	"	12.00
Pork, Mess.,	" " 6.50	"	"	10.00
" Prime,	" lb.	06	"	07
Lard,	" " 03	"	"	04 1/2
Bacon Sides, Smoked,	" " 03	"	"	04
" in Pickle,	" " 05	"	"	09
Hams, Smoked,	" " 04	"	"	07
" Pickled,	" " 04	"	"	06
Shoulders, Smoked,	" " 03	"	"	05
" Pickled,	" " 2.25	"	"	3.62
RICE,	" 100 lbs.	20	"	2.00
SALT,	" sack.	35	"	35
" Common,	" bushel.	06	"	09
SEEDS—Clover,	" lb.	2.75	"	3.50
Timothy,	" bushel.	1.75	"	1.80
Flax, Clean,	" " 1.70	"	"	1.75
" Rough,	" " 03	"	"	—
SODA, Ash, (80 per cent. soda),	" lb.	01	"	—
Sulphate Soda, Ground,	" " 04	"	"	06
SUGAR, New-Orleans,	" ton.	35.00	"	37.00
SUMACH, American,	" lb.	07	"	08
TALLOW,	" " 23	"	"	25
TOBACCO,	" " 40	"	"	60
WHISKEY, American,	" gallon.	35	"	40
WOOLS, Saxony,	" lb.	30	"	35
Merino,	" " 20	"	"	30
Grade Merino,	" " —	"	"	—
Common,	" " —	"	"	—

NEW-YORK CATTLE MARKET.

At Market.—1,100 Beeves, (600 southern, the remainder from this state and the east,) 75 Cows and Calves, and 3,000 Sheep and Lambs.

Beef Cattle.—An abundant supply, sales varying from \$6 to \$8 per hundred. Demand fair but dull at the close. About 100 left over.

Cows and Calves.—The principal part of sales of these were made from \$20 to 38, according to quality. 20 left over.

Sheep and Lambs.—The prices of these continue firm. The sales varied from \$2 to \$5.50. About 100 left over unsold.

March 11.

REMARKS.—The past month has been a very dull one, and prices remain nearly as they were at our last.

The Weather still continues mild for the season. It is to be hoped severe frosts will not follow as they did last year, to the great injury of fruit and young crops, particularly at the south.

TO CORRESPONDENTS.—Communications have been received from A. Beatty, M. W. Phillips, S. Jacob Taylor, F. J. L., Samuel B. Parsons, B. P. Johnson, A. E. Atherton, C. S. Amanda, Levi Bartlett, L. Durand, R. W. Charles Du Bois, R., Robert G. Ramsey, M. G. A., E. E. Todd, Benjamin Acton, J. T. M. H. Morris.

ACKNOWLEDGMENTS.—Letter to Hon. John M. Clayton, Secretary of State, enclosing a paper, Geographical, Political, and Commercial, on the Independent Oriental Nations, by Aaron H. Palmer, Esq., Counsellor of the Supreme Court of the United States; Transactions of the Worcester, (Mass.) Agricultural Society, for the year 1849; Horticultural Report of the Twenty-Second Annual Fair of the American Institute of New York; An Oration Delivered before the Two Societies of the South-Carolina College, in December, 1849, by James H. Hammond; also an Address Delivered by the same gentleman before the South-Carolina Institute at its First Annual Fair, in November, 1849; A Package of Seeds from the United States Patent Office.

FRUIT AND ORNAMENTAL TREES FOR SALE.—30,000 Peach Trees of the choicest kinds from \$5 to \$6 per hundred. Also, 30,000 Apple Trees of all the standard varieties, of extra size, from 7 to 10 feet high, at \$12.50 per hundred, among which are a large quantity of the celebrated Monmouth Pippin, Baldwin, Esopus Spitzenberg, Newtown Pippin, Rhode-Island Greening, &c., &c. Catalogues, with prices annexed, may be obtained by applying by letter, to the proprietor,

ISAAC PULLEN, Hightstown, N. J.

apr 21*

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TWO FARMERS AND PLANTERS.—The New and Improved Poudre of "The Lodi Manufacturing Co.," is offered for sale the present season at the following rates, viz: 1 barrel, \$2, 3 barrels, \$5, and at the rate of \$1.50 per barrel, for any quantity over 6 barrels. Delivered free from charge for barrels, cartage, or other expenses, on board of vessels in the city of New York.

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apr 11

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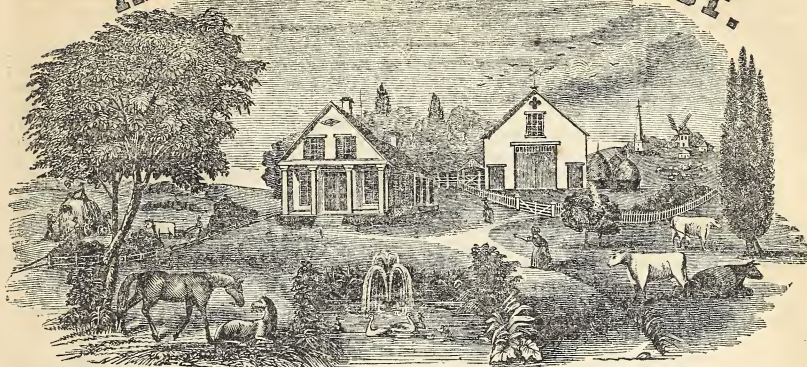
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AMERICAN AGRICULTURIST.



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VOL. IX.

NEW YORK, MAY, 1850.

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A. B. ALLEN & R. L. ALLEN, *Editors.*

C. M. SAXTON, *Publisher, 121 Fulton Street.*

THE
AMERICAN AGRICULTURIST
AND
FARMERS' CABINET.

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JOSIAH TATUM, 50 NORTH FOURTH ST., PHILA.,

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THE TRAVELLER.—No. 2.

FROM Philadelphia to Wilmington, the road lies along the Delaware, over a very different land from that on the Jersey side. There it is level and sandy; here hilly, rocky, and clayey. There the farm houses are mostly of wood, with a light, cheerful look; here they are mostly of stone, with a dark, gloomy exterior, and from intercourse with the inhabitants, one is constrained to think that they partake in some degree of the nature of their habitations. Most of the land along this road is used for grazing purposes, and every road-side inn is a cattle market. Many of the cattle fed here, first saw the light upon the grand prairie of Illinois, whence they travelled to the rich pastures of Northern Ohio, and from there to the sweet grass-clad hills of the Delaware, and will at last gladden the hearts of some of the hungry souls who buy their daily allowance of beef in the city markets.

Average Crops near Wilmington—Farm of Wm. Webb.—Upon well-cultivated, richly-manured clay soil, corn, 70 bushels, wheat, 20, potatoes, 200 per acre. Rotation. Commence by turning under Timothy sod six inches deep in the fall, put on twenty two-horse-cart loads of manure in the spring, and plow in without turning up the sod, and plant corn first of May. Plow in ridges in fall after the corn is off, and again in spring with forty single loads of manure, and plant in drills, fourteen bushels large potatoes, cut. After the potatoes are dug, haul off the vines for manure, plow, harrow, and sow 8 to 12 quarts of Timothy to the acre. Mow three years without grazing or manuring, and then plow and plant corn again. Mr. Webb finds this course more profitable than sowing wheat, as upon land so highly manured, it makes too much straw, which falls down, and the profitable yield of grain is apt to fail.

Mr. W. has enriched a poor, worn-out farm by the use of night soil, which he procures from Wilmington in large four-ox wagons, at one dollar a load, he finding team and wagon; or as they are called, "barges." These are tilted and emptied into a cistern upon a side hill, where the contents are diluted and drawn off by a gate and sluice into carts, and spread upon fresh-flowed ground. His stock, crops, and profits, I have given in detail at page 146 of the current volume.

Bought the farm, 100 acres, about a dozen years since, at \$50 an acre. It is now worth \$100 to \$120. Hires one man by the year and one for eight months, and occasionally by the day. Usual wages \$10 a month, and 50 cents a day. Keeps two horses and works by exchange with his father, equivalent to three yoke of oxen. Keeps one good cow and one hog. Crops last year, 22 acres corn, 18 this year; wheat, 20 acres each year, but intends to quit sowing wheat; oats, 2½ acres last year and less this; mowing, 38 acres—hay sold in bulk. Intends to subsoil-plow the whole place. Lined once, 50 to 100 bushels unslacked, to the acre. Cost, 12 to 14 cents a bushel, and two to three miles' hauling. Prefers ashes to lime; they cost 12 cents a bushel, as gathered from houses, or 8

cents for leached. Of course, this system of farming can only be carried on in the vicinity of large towns, or where an equivalent of manure can be returned to the land for crops carried off.

Drilled Turnips.—No one can have an idea of the increased crop by drilling, until he has seen with his own eyes. This I saw well demonstrated upon the farm of Dr. Brown, a real working farmer, near Wilmington. Many bunches of six to eight grew so thick that the centre ones were lifted quite upon the top of others, the tap root only reaching the ground.

Value of Swamp Muck on Grass.—Dr. B. used it as top-dressing for grass, and doubled the crop. Thinks it the most valuable application that can be given grass land at the same expense. Dr. B. is a Yankee farmer, though only lately engaged in the business, and understands the profit of manuring. He gets three crops of market vegetables a-year, from a portion of the land.

Hog Manure.—He thinks the manure that can be made by a pen of hogs, worth more than the pork, and that is worth 5 or 6 cents a pound.

Price of Milk.—He keeps about a dozen cows and sells milk at 5 cents a quart, which is equal to butter at 75 cents a pound.

How to Make a Heifer a Good Cow.—C. P. Holcomb, says, let a two-year-old heifer have a calf, and let a steady good milker draw the milk three times a-day, and try to distend the udder and it will do so and increase her capacity to secrete milk.

SOLON ROBINSON.

THE BEST ROTATION OF CROPS.—No. 2.

JUDGE BUEL, who was an excellent practical farmer, says: "The best guards against drouth are, keeping the soil deep, rich, clean, and mellow on the surface." He also assures us, that "the fibrous-rooted vegetables gather their sustenance from the upper, and the tap-rooted from the lower stratum." I have said deep plowing is necessary to prepare the ground for the succeeding crop of rye and clover, in order that there may be a deep permeable soil for the long tap root of the latter, and thus enable it to draw its nourishment from the subsoil. The corn will also be greatly benefitted by deep plowing, because this is not only the best guard against drouth, but also enables the roots of corn to penetrate deeper in the soil, and thus derive a fuller supply of food than they could possibly do if only enabled to extend themselves along the surface of the ground.

The advantages of deep plowing may be best attained, in the foregoing rotation, by effectually turning under the clover ley, in the fall, or early in the winter. The sooner this operation is performed, after the second crop of clover is thoroughly ripe and dry, the better, because it would have more time to go through the process of putrescent fermentation, before the clover is thrown to the surface, by plowing the ground the next summer. The following plan is recommended:—So soon as the second growth of clover is thoroughly ripe and dry, let the clover ley be carefully turned under, with suitable

plows; and, to accomplish this more effectually, let a second plow of suitable construction, follow each of the large plows, in the same furrow, so as to deepen the loose soil, and completely cover the clover.

To facilitate this purpose, a brush drag should precede the first plows, so as to lay the clover in the same direction in which the ground is to be plowed. If this operation is well performed, the clover ley will be completely buried, and a deep, loose soil found, which may remain undisturbed until near the time for planting corn, in April following, when the ground should be well harrowed, and checkered off very shallow, with light one-horse plows, and planted. In order not to disturb the clover beneath, the corn should be cultivated entirely with light one-horse harrows or cultivators, till about the first of July. By this time, the clover will probably have gone through the putrescent fermentation, and should now be well stirred with shovel plows, each way, and so deep as to scatter and bring near to the surface, a sufficient portion of clover-seed to furnish the succeeding crop of clover.

Early in September, the field should be sown in rye, and put in with the cultivator, or corn harrow, so as to leave a tolerable level surface, for the benefit of the succeeding crops of rye and clover, both of which are to be fed on the ground. If the corn, among which the rye is to be sown, in September, shall have been blown down, or tangled so much that the cultivator or corn harrow cannot be used, in putting in the rye, this operation must be delayed till the corn is cut up, and put in shocks. As it is important that the rye crop should be sown early, in order that it may furnish a good pasture the ensuing winter and spring, it is necessary that the corn crop should be planted early, so that it may be ready the sooner to cut off, in case it should be so tangled as to prevent the rye being sown among the standing corn. Besides, even if it can be sown, before the corn is cut off, it is important that this operation be performed soon after, as much benefit will thereby result to the rye crop, by affording it sun and air.

The corn crop should always be cut up, when thoroughly ripe, as well for the purpose of providing, as with a view to saving of manure. It should be fed to fattening cattle, in feeding pens, so situated as to be best adapted to the saving of manure, and convenience of hauling to the proper fields. That part of the fodder, from which the corn shall have been shucked, should be fed in the same manner, with a view to the same object. Judge Buel states that by pursuing the course recommended, "ten or twelve loads of manure may readily be obtained every spring, from each animal wintered in the yard."

Prospect Hill, Ky.

A. BEATTY.

SALT BITTERNS AS A MANURE.

In the *Agriculturist* for February, is an inquiry as to the value of salt bitterns, (as the foreign ingredients in the salt water of the Onondaga salines are called,) for manure. I have at this moment, no analysis of this substance before me, to enable me to state with certainty of what it is composed, nor in what proportions; but it is generally understood to consist of lime, (the sulphate and carbonate,) with a little iron, and I think some magnesia. Of these, the sulphate is in the largest quantity, but in the form in which it is thrown out of the works, it is also strongly impregnated with salt.

Of this material, hundreds of thousands of bushels are heaped up about the salt works in this city, and are used for filling the streets, lots, &c.

Perhaps any one familiar with the chemical character of the ingredients could determine whether they would be useful for manures, as well without a trial upon soil as with one. I have been 20 years a resident of Syracuse, and yet am unable to give the information sought for. There prevails here a vague idea, or a popular notion, that bitterns would serve a valuable purpose, applied to the soil. I have heard numbers of persons remark that they have seen them tried, and know they produce a marked effect. In one instance, I remember a gentleman, resident here, told me that he was knowing of their application upon a considerable piece of land, and that the effect was observable for several years. I have also been informed, that where the salt water escapes from the State Aqueducts and saturates the ground, the grass springs up after a few years, with much greater luxuriance than before. But I have never witnessed an example of this sort, and I know of no one in this vicinity, who is accustomed to any regular or systematic employment of these bitterns for fertilising purposes.

I am about to institute some experiments on this subject. Last summer, I paid \$30 for hauling a quantity of this material about two miles, to my farm. It lies yet in a heap, in the field, but I shall this spring, begin to use it. I intend to apply some of it as a top-dressing upon a piece of meadow, and likewise, upon a low pasture, recently reclaimed, the surface of which is composed of two or three feet of peat, or muck. I am mostly engaged in growing fruit trees, and dare not apply bitterns very freely to them, for fear of the effect of the salt. But in a year or two, perhaps, by next fall, I shall be able to speak more confidently in regard to their merits.

Mr. Spencer, formerly superintendent of the Onondaga Salt Springs, stated to me, (I believe, on his return from Saltville, in the southwest county of Virginia, where he was employed three or four years since, in the supervision of the salt manufacture at that place,) a fact that has some bearing upon this inquiry, and which I will repeat. He said that in the immediate vicinity of the salt works, in that section, was formerly an open, barren field, of about forty acres in extent, lying in the form of a natural basin. When he went to Saltville, he noticed

OSAGE-ORANGE SPROUTS FOR WALKING STICKS.—The raising of these would doubtless be a profitable business, to sell to the walking-cane makers, as no other wood can surpass it for that purpose. A ready sale could be had in this city for a very large quantity.

that one half of this tract, there enclosed, bore a most luxuriant crop of grass, while the other part was comparatively unproductive. The contrast between the two parts of the field was so marked, that he had the curiosity to inquire into the cause. He received for answer that 20 years before, the bitterns, composed of the same substances as those of Syracuse, had accumulated in such large quantities about the salt works, as to impede the operations of the proprietors, and they had been forced to remove them. They were carted into this field, and spread as was found most convenient over the one half, not with any expectation of deriving any benefit from their application to the soil, but simply to get them out of the way. How long it was after this, before vegetation resumed possession of a soil thus formed, I do not recollect that Mr. S. stated, but for a number of years it had borne the heaviest crops of grass he had ever seen, and at all times exhibited a remarkable appearance of verdure amidst surrounding sterility.

The soil in the vicinity of Syracuse is composed of the debris of the great limestone ledge, or out-crop, which runs through the western part of this state. It is naturally productive, and is exceedingly sensitive to barnyard manures. There is not a great deal of skillful or scientific farming done within two or three miles of the salt works, the attention of our citizens being turned to other objects. This I think accounts for the want of some positive knowledge upon the subject of the efficacy, as a manure, of the lime and plaster found in the salt water here. Some of the farmers in the country have applied salt to their growing crops, such as wheat and barley, with decided advantage, and its use as a top-dressing upon English grain and grass is probably increasing.

Of one fact, I have not a particle of doubt. If our salt works were on Long Island, the bitterns would be used, and would be found valuable on its sandy soil. But I am not certain they would pay transportation from here. I once proposed to Senator Smith, of Long Island, to send him a boat load, for trial, but have never carried my purpose into effect. When I have seen the results of my experiments, I will apprise you. V. W. S.

Syracuse, N. Y., Feb., 1850.

RUTA-BAGA OR SWEDISH TURNIPS.

We are no advocates of the introduction of ruta bagas into general cultivation in this country for stock feeding, to the exclusion of our corn and clover crops. We have no doubt, that the cultivation of corn for fattening animals, and to a certain extent for growing and working ones, also, where the soil is suited to it, is much more profitable in North America.

Besides the perfect adaptation of our hot, dry summers to maturing large quantities of this highly-condensed and fattening food, which, on fertile lands, with judicious selection of seed and proper cultivation, need seldom fall below 50 bushels, and often rises to 80 bushels of

shelled grain per acre, there is a large quantity of valuable forage furnished in the stalk, leaves, husk, and cob. This, if properly prepared, and fed, will yield a great deal of nutriment to cattle, sheep, and horses. Great loss has been sustained by the waste of these, from utter neglect or injudicious management; but if all are husbanded and fed, we much doubt if any crop within the United States, will yield so great a product in pork, beef, mutton, growth, or laboring capacity, acre for acre, as Indian corn.

Unlike most others of the family of grasses, in which this grain is properly classed, corn draws much of its nourishment from the atmosphere, through its massive, porous stalks, and its expanded succulent leaves; and it consequently leaves the soil less exhausted for the quantity of nutriment it contains, than any other grain, buckwheat alone, perhaps, excepted.

But, after allowing all these advantages to the general cultivation of corn, we are satisfied there is frequently great profit in growing a few acres of turnips where the soil is adapted to them, and the stock on the farm will admit of their economical feeding.

Roots of some kind, either potatoes, carrots, beets, parsnips, or artichokes, are almost indispensable for the health and thrift of stock, as an occasional food. In this country, potatoes have formerly occupied a conspicuous rank for this purpose; but since the fatal and almost universal epidemic, which has ravaged them for the last few years, they have become much less popular, and their cultivation has been limited, almost entirely to their production as human food. There is, besides, a large expense for the seed, and a good deal of labor in planting and digging. The cultivation of all the other enumerated roots, is unquestionably attended with much profit for stock feeding, but our countrymen have not engaged in this enterprise to that extent, or with that zeal and intelligence which its advantages would justify. We go back, then, to our starting point, the advantages of cultivating ruta bagas.

They yield an enormous crop. From 15 to 30 tons per acre, or 600 to 1,200 bushels, is not an uncommon yield in Great Britain. It is true they are decidedly inferior to the potato, pound for pound, for feeding purposes; and they are below either the beet, carrot, or parsnip; but their greatly-increased product, the facility of cultivating and harvesting, and the fine condition in which they leave the ground for after crops, should commend them to favor. The expense of seed is trifling, as a few shillings will procure enough for an acre. They are readily dibbled in by a sowing machine, which opens the ground, drops the seed, covers and rolls it; and a horse cultivator is all that is needed for subsequent cultivation. Their broad, fleshy leaves draw largely from the nutritious gases of the atmosphere, while their long, filament rootlets penetrate deeply for the fertilising salts, which they bring up from the remote subsoil, when properly loosened with the subsoil plow. They are easily harvested and cheaply stored, as slight frosts do not injure them; they are

scarcely subject to disease or decay, if fed before the approach of warm weather. Their leaves furnish a considerable amount of manure, which is estimated by an intelligent English farmer, at six dollars per acre, when the crop reaches 20 tons of roots. The leaves also provide an ample shade for the soil (where the growth is large, as it always should be) and this facilitates the absorption of nutritive gases by the soil, and prepares it most effectually for successive crops. The addition to the manure heap from the consumption of so large a quantity of roots, is an additional item of great consequence to the calculating farmer. In feeding these watery roots, cattle and sheep have their appetites whetted for dry forage, however rough or coarse it may be; and the straw of wheat, oats, and buckwheat, the haulm of beans and peas, and even the potato and artichoke tops are greedily devoured and yield no small amount of nutriment. These are important advantages and should not be slightly considered by reflecting farmers.

The soil for the ruta baga should be highly manured and thoroughly plowed and subsoiled. In addition to barnyard and compost manures, bonedust should be plentifully drilled in with the seed. If not previously applied to the field, the farmer may be under no apprehension of using it too plentifully; for it cannot, like an over dose of lime, by any possibility, injure the soil. If finely-ground bones or sawings are used, 8 or 10 bushels per acre will suffice; if coarse, from 30 to 40 bushels may be safely applied; and whatever is left in the ground, after the turnip is taken off, as most of it will be, will yield in subsequent years, all the turnips' food by slow decay in the soil. Bonedust is a peculiarly appropriate food for the turnip, from the great proportion of phosphoric acid which both contain.

Of the merchantable manures, guano, perhaps, is more valuable for turnips, as in addition to the large per centage of phosphoric acid, which is readily given up to the crop, it furnishes with equal promptness, almost every element required by the turnip, excepting water; and this even in seasons of the greatest drouth, will be supplied from the atmospheric vapor, if the plow and subsoiler has been first thoroughly applied, and the horse cultivator afterwards.

Next to guano and bones, plaster may be reckoned the best application. This yields lime and sulphuric acid, both of which the turnip greedily devours; and it helps it to large quantities of its watery aliment, by condensing the dews and vapor on its leaves and roots. Salt yields it soda, and like plaster, helps it to atmospheric vapor. From five to eight bushels of salt per acre will suffice. Both soot and charcoal attract moisture, and draw large stores of nutritious gases from the air. The farmer can hardly go amiss in manuring for the turnip, provided he but apply it abundantly.

After mellowing the ground sufficiently with the plow and harrow, if at all inclined to wet, (as heavy clay and some peaty soils often are, when not underdrained,) the earth should be

thrown into slight beds, or ridges, of the required distance between the rows. In all other cases, plant on a flat surface, at the rate of two or three to five or six pounds per acre, according to the nature of the soil and the apprehension of loss from the fly, beetle, and other enemies. A few ounces of seed would suffice for an acre if each matured a bulb; but as many seeds do not germinate in stiff or too dry soils, or are destroyed or perish soon after germination, it is always safer to plant abundantly and thin out with the hoe when cultivating.

Turnip cultivation, in Great Britain, has resuscitated more land, and been the means of yielding her more wealth during the present century, than any other crop she has grown, with the exception, perhaps, of their forage plants. It is not simply the amount of value yielded by the turnip alone, but it is the increase in the manure heaps, and the high condition in which the land is left for subsequent crops, that has made the cultivation of the ruta baga so valuable to that country. Her moister climate and milder winters, allowing the feeding this bulky crop on the field, without injury to the roots from frost or suffering to the sheep or cattle from inclemency of weather, render this root much better adapted to her agriculture than our own. Yet the realisation of such vast advantages by her, may well incite American farmers to test the merits of this system for some of their own fields.

May we ask, in conclusion, that some of our observing farmers will favor us and their fellow readers with the results of some of their experiments in raising this valuable root?

SOWING INDIAN CORN FOR SOILING.

We cannot too often remind our readers of the great advantage of sowing corn for green fodder, where it is valuable, which is always the case in the vicinity of cities and the larger class of towns. By commencing the sowing the latter part of this month, and continuing the operation each successive week or ten days till August, a constant supply of choice food will be secured during the remainder of the season, when it will be most wanted. The natural grasses of the pastures, when closely fed, begin to give out in July; and if the season prove dry, they frequently continue short for several months. A comparatively small quantity of land, richly supplied with manure, finely prepared and cultivated, will yield an immense quantity of sweet, nutritious fodder during this time of drouth. From the experience of our best dairymen, an acre of corn, thus cultivated, will supply ample food for four cows during three months. It may be fed from racks or mangers in the yard, or in the stables, if they are not too warm; or, it may be scattered from a cart upon the ground, after which the cattle may be admitted, where they will devour the whole—stalks as well as the blades.

If the fodder be wilted a few hours in the sun, previous to giving it to the animals, it is believed to be more wholesome and less likely to produce hoven, or wind in the bowels, than when given to them green.

QUALITIES OF LIME AND ITS COMPARATIVE VALUE FOR AGRICULTURAL PURPOSES.—No. 2.

LIME is slightly soluble in water, a property which is so essential to enable it to undergo in itself and effect in other matter, those chemical and mechanical changes before alluded to. The solvent power of water upon lime is in the inverse ratio of its temperature. At 32° water dissolves $\frac{1}{858}$ of its weight of lime; at 60° $\frac{1}{718}$; and at 212° only $\frac{1}{1270}$; and as the ordinary temperature of water in soils seldom exceeds 60° , and frequently is near 32° it follows that in this condition, it acts with nearly its maximum influence on lime.

Another property of lime, we have no doubt is true, though in the yet imperfect state of agricultural science, we are not absolutely certain of it; and if true, it is of incalculable advantage in promoting the growth of vegetation and that too from the gratuitous supplies derived from the atmosphere. When lime is mixed with damp manure and rich vegetable loam, in the shade, it condenses nitric acid, which immediately combines with the potash of the manure, forming nitrate of potash (saltpetre). That this operation is going forward in rich calcareous soils, hardly admits of a doubt, especially when shaded by a rank vegetable growth, and occasionally stirred in the process of cultivation. The value of both nitric acid and nitrate of potash to vegetable nutrition, has too often been tested to admit of doubt. Professor Johnston in his ingenious and valuable essay on lime, published in the Highland Quarterly Journal of Agriculture, in which many of the probable beneficial operations of lime are detailed corroborates this opinion and attributes not only the formation of nitric acid, but ammonia, also, "at the expense of the free nitrogen of the atmosphere, from the presence of calcareous matter in the soil."

There is a great difference in the value of the various limestones for agricultural purposes. When burnt, some contain considerable proportions of phosphate of lime, the remains of innumerable infusoriae, coprolites, and some species of the coral, the aggregation of ages of insect and other animal remains, in the indefinite past. Phosphate of lime is the principal fertilising material of bones, and enters into the composition of every vegetable; its importance must therefore be readily appreciated. And this is the reason why one species of limestone yields what is termed lime, but which is really quicklime associated with the phosphate, so much more valuable for agricultural uses than others, which approximate more nearly to a pure carbonate. Many of the limestones of Kentucky and other parts of the Union, and more frequently the marls, yield a large per centage of phosphate of lime; and wherever such are attainable, their application to soils is attended with the best results. The yield of fertile lands is augmented, and the resuscitation of worn-out soils is speedily accomplished where such a dressing is used. There are other limestones which yield only an impure lime, mixed with considerable quantities

of other minerals or earth, of no utility for agricultural purposes.

Oyster-shell lime, or that derived from other shell fish, both of marine and fresh-water origin, is generally superior for agricultural purposes, to such as is derived from other sources; not only from its containing nothing but what is useful, but especially as yielding a noticeable quantity of phosphate.

Magnesian lime has its value in agriculture. This is apparent from the analysis of the ashes of all vegetables. None are without magnesia. Wheat contains about 0.9 per cent; barley almost 2; the bean and pea nearly as much, and their straw and the clovers and lucern, from 2 to 3.5. Besides contributing to the food of plants, its alkaline properties act on soils and manures in a manner similar to lime, but in a more intense degree. Wherever applied, therefore, it must be in quantity considerably less than when the pure lime is used.

The effect of lime upon crops is to mature them earlier, and give a fuller, healthier growth. The best sugar plantation in Louisiana, which gives the largest average yield of sound, convertible juice, has great quantities of muscle shells, in every stage of decomposition, scattered throughout the soil. Wheat is found to be fuller and heavier when grown on well-limed or calcareous soils. The stalk is not so liable to rust, or mildew, and it yields a brighter, cleaner straw. The potato rot, which has devastated not only fields, but whole countries, has in many instances, been checked or wholly prevented by the use of lime. Lime seldom or never does injury either to the soil or crop, unless applied in excess; and in nearly all cases, its application is attended with the best results.

The application of lime may be made either after burning or grinding, but the former is by far the most speedy in its effects. In this case, it is reduced to an impalpable powder, it may be a thousand times finer than by the most efficient artificial grinding, so much more perfect are the chemical operations of nature than the mechanical ones of man. In consequence of this minute division, every particle of the lime is brought into intimate contact with the soil and exerts its full influence; while the unburned though finely-divided limestone may require many years, and probably centuries of them to yield all its benefits. The difference to the soil is analogous to that of an animal swallowing unbroken grain and cooked meal. In the former case, the grain may possibly be voided before digested; in the latter, every particle of the farinaceous nutriment has been developed by the expanding heat, and is thus ready for immediate assimilation by the stomach.

It is important to secure the maximum benefit of lime, that it be kept near the surface. Air, moisture, heat and light are all important agents in effecting chemical changes in the soil; and these are only to be found at or near the surface. From its greater weight, there is a constant tendency to sink, not only from the operations of the plow, spade, &c., but from the washing of rain, the operations of moles, earth worms, and

insects, besides such portions as are dissolved and carried down. This consideration should induce a frequent application of small quantities, say 20 to 40 bushels per acre, as often at least, as once every three to five years. And to secure its immediate action, which is not felt for one or two years, it may be intimately mixed with four or five times its bulk of rich turf or loam, and allowed to remain for a few months or a year, when it will be ready at once to commence its work of regeneration in the soil, besides yielding a valuable manure in the rich loam with which it has been mixed.

SOWING BROOM CORN.—The best soil for this plant is similar to that required for maize. It should be rich, warm, and not subject to early frosts, like the "intervals," or "bottoms," of the Connecticut, the Mohawk, the Sciota, &c. The best crops are usually raised on a green sward, turned over as late as possible in the fall, to kill the worms. But if the land be poor, it must be enriched by a liberal supply of well-decomposed farmyard dung, with additions of guano, plaster, oyster-shell lime, or poudrette. It should be planted as early as the 15th of this month, in hills, about two by three feet apart. If the seed be good, drop 15 or 20 of them into each hill, and cover them from an inch to an inch and a half deep.

When properly cultivated and brought in good condition to the New-York market, broom corn, of the best quality will now sell for \$100 to \$250 per ton.

THE WYKOFF FARM.

This farm contains about 230 acres, and lies in Manalapan, Monmouth county, New Jersey. The stage road from Freehold to Hightstown divides it near the centre, thus making a handsome front on each side. Six years since, it was purchased by Mr. Ellis, and was then under an ordinary course of cultivation. Now it has been so much improved by Mr. E. that it is worth one third more than he gave.

Mr. Ellis has on that part of the farm north of the road about 22 acres of low ground considered by its former owner valueless, only for coarse pasture. By ditching and draining, he has discovered within the past five years, a vast reservoir of vegetable matter, which has been hid from observation by a layer of peat, which covered the entire field from 6 to 12 inches in depth. Under this, is the vegetable substance, resembling, in appearance, dry horse manure, which I think is a fair representation of that article in quality when warmed by a good mixture of lime. The layer extends from 3 to 10 feet in depth.

By untiring industry, Mr. Ellis has already brought a portion of this waste land into cultivation. While he has been preparing this part of the waste by ditching, he has materially improved his upland by applying to it what he has taken from the ditches. His process has been to cart the substance taken from the ditches to the high ground, then compost it by mixing slacked lime, one bushel to twenty of the

earth. Where manure thus prepared has been applied, 20 loads to the acre, he says the product has been increased one third.

On that portion of the field already reclaimed, he has had four successive crops—first, buckwheat, a light coat of lime applied; second, potatoes, planted in the hill; third, potatoes and pumpkins. This crop completely covered the ground; fourth, oats, which grew full 5 feet high, and were tolerably well filled. These crops were grown on land that, six years since, was a swamp, used only for coarse pasture.

Thus far he has succeeded well in his endeavors to reclaim the entire swamp. By this discovery, he avoids the necessity of carting marl seven or eight miles, which would cost from 25 to 50 cents per load, at the pit. He thus made a manure equally good as the marl; and, if instead of using slacked lime in his compost, he used unslacked, I know not why this compost will not be equally as good as stable manure, as the vegetable substance is impregnated strongly with alkali.

With the skill and perseverance which characterises Mr. Ellis, I think he will soon have all the varieties of grains, grasses, and vegetables usually raised in his neighborhood, growing profusely, and yielding abundantly on that once old quagmire, but now vast manure heap. Something of other parts of Mr. Ellis' farm, buildings, &c., at another time.

A. SHERMAN.

A VALUABLE SOUTHERN GRASS.

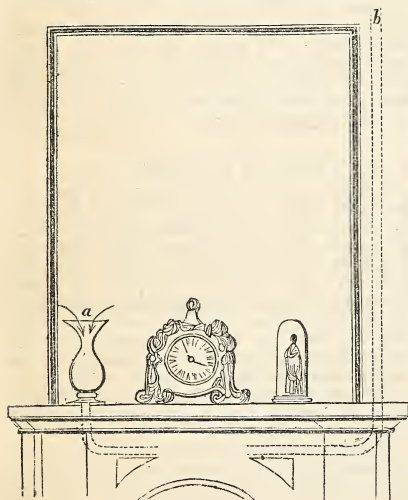
On a recent visit to Millwood, the residence of that noble South Carolinian, Col. Wade Hampton, we noticed a most beautiful grass plot, growing in all the luxuriance of spring, although in gloomy wintry February weather. It is true that such a green spot there appears far more pleasant to the eye than such a spot would in spring in a grass-growing country; because here all around, the earth presents but a bare surface, almost, if not entirely incapable of sustaining cultivated grasses, except at the great expense of preparation which Col. H. has given to the ground now glowing in its verdant coat.

This grass is as yet without a name. Dr. Bachman, the eminent naturalist, of Charleston, at first thought it was the American Canary grass, but on further examination expresses some doubts. It grows about two feet high, with top and seed somewhat like blue grass, (*Poa pratensis*), only much larger. It is a native wild grass, and may be found from the sea board to the mountains of the Atlantic southern states; and Col. Hampton says will endure frost and drouth better than any other grass he has ever seen growing at the south.

SEASON FOR FELLING RESINOUS TREES.—Any time during this month, or the next three months following, all kinds of pine, larch, and other resinous trees may be cut, as the pores of their wood will be filled with resin, which serves to increase the strength and durability of their timber.

THE AIR-SYPHON VENTILATOR.

THIS new mode of ventilation, a notice of which is to be found at p. 111, of the current volume, was patented by Dr. Chowne, of England, and is based on the principle that, "If a bent tube or hollow passage be fixed with the legs upwards, the legs being of unequal lengths, whether it be in the open air or with the shorter leg communicating with a room or other place, that the air circulates up the longer leg, and that it enters and moves down the shorter leg; and that this action is not prevented by making the shorter leg hot, whilst the larger leg remains cold; and no artificial heat is necessary to the longer leg of the air syphon, to cause this action to take place." Thus, by using the chimney of an ordinary room, for instance, (into which air has free access,) as the longer leg and by conducting a tube or channel constituting the short leg of the air syphon, from any part, (as near the ceiling, for instance,) into the lower part of the chimney, at the suitable place, a current of air will proceed from the apartment down the shorter leg, and away up the longer one.



AIR-SYPHON VENTILATOR.—FIG. 45.

The means of ventilation can be conducted by light lead or zinc tubes, passing round and through a room, and finally into the fireplace; and tubes passing from these to the upper parts of the room, the warm air would constantly descend through them to the continuous channel, and then into the longer leg of the syphon.

In the above illustration, the dotted lines, *a*, and *b*, represent pipes about two inches in diameter, which are concealed behind the upper part of the jambs, and communicate with the chimney opening, thus forming an inverted syphon, the flue of the chimney being the longer leg. To draw off the gases or air from the middle

portions of the room, a pipe may be conducted from the bottom of an ornamental vase *a*, into the flue, when the air would take the course as shown by the arrows; and to remove the air from the upper portions of the room, another concealed pipe may communicate with a small aperture above the jamb, as at *b*, thereby immediately establishing thorough ventilation.

A peculiar fact is, that this mode of ventilation affords facilities hitherto not known for carrying away the heat, and other products of combustion from gas burners, and other lamps, of which the products are offensive. Again, wherever the air-syphon ventilator is in operation, it is certain, that, should an accidental escape of gas take place, it will not accumulate, but descend from the upper part of the room, by means of the shorter leg of the syphon. This apparatus admits also, of being extemporaneously and temporarily set up in a sick room, so as to cause a constant removal of air from the upper portion of the apartment, where it is so apt to hang about the curtain furniture of the chamber, and to impregnate it with the exhalations which are so often the result and generators of disease.

In a similar manner, the air syphon can be applied to the ventilation of churches, school houses, barns, conservatories, wells, cellars, vaults, &c., &c.. In short, if what is said of it be true, it is one of the greatest discoveries of the age.

DISCOVERY OF THE CAUSE OF THE YELLOWS IN THE PEACH TREE.

ALTHOUGH the various journals devoted to agriculture throughout our broad land have teemed with articles on the disease called "the yellows of the peach tree," I believe a small beetle, named in Harris' Catalogue, *Tormicus liminaris*, has never, until lately, been suspected as the cause of that destructive malady.

I will not presume to say that it is the sole cause of the decline of the peach tree, for I am aware that unhealthy soil, late and hard frosts, the large borer, (*Ægeria*), and too profuse bearing, will all injure the trees and cause death; but I believe the little *tormicus* will be found to produce that disease which is believed by many to be infectious.

Though the *Tormicus liminaris*, in its perfect state, has long been known to science, its habits in the grub or larva form are little known, and few have been led to search for them in the bark of the peach tree, where they may be found in incredible numbers. They are so minute, that only a close observer would see them; but like the itch mite in the human family, they produce disease, and frequently death.

When the peach tree is infested with the *Tormicus liminaris* in sufficient numbers to cause disease, the tree will throw out great numbers of sickly shoots, in August and September, at which time the grubs may be found securely feeding in the sap vessels of the inner bark of the tree, effectually protected from all external injury by the hard outer bark. Too minute to attract attention, these little creatures do their work secretly and surely, uninjured by any of

those applications that have so frequently been recommended; for, however beneficial these nostrums may be in other diseases to which the peach tree is liable, they will be found of no avail in this, as any remedy sufficiently powerful to kill an insect so well defended, will also destroy the life of the tree, and their numbers and minute size preclude the idea of destroying them with a probe, as in the case of the common peach borer, the *Ægeria*.

The tormici assume the beetle form in August, when most of them quit their parent tree, and seek a more healthy home for their progeny; the eggs are then deposited in the bark, where they remain until the following summer, when they come into life, and unsuspected begin their work of destruction.

It will now be seen why the disease caused by the tormicus has been considered infectious, and why the trees most in contact with the sickly tree will be the first attacked, and also, why a tree that has been inoculated with buds from a healthy tree, but on which the eggs of the tormicus have been deposited, will show the disease simultaneously with the tree from which the buds were taken, and thus appear to have been inoculated by the sap.

From numerous experiments tried on trees under my care, I am convinced of the correctness of the opinion expressed by a writer in a former number of this journal, that nothing can be done to stop the disease from spreading, but to cut the tree down, and burn it, root and branch; and thus by effectually destroying eggs, larvæ and perfect insect, prevent the escape of the beetle from the present tree, to the injury of the surrounding ones. Whether in the beetle or grub form, this insect is seldom more than one twelfth of an inch in length; but what is lost in size, is made up in numbers, and thus their destruction becomes hopeless, unless by the sacrifice of the parent tree.

M. H. MORRIS.

Germantown, Pa., March, 1850.

DECAYED GRAIN INJURIOUS TO STOCK.

I RECOMMENDED a friend, some time since, to feed his cattle on rotten or refuse corn, which he did, and maintained for a while that it certainly fattened them; but after some time his steer was paralysed. It however soon recovered upon change of food. I have seen no such effect. I have just killed what we consider good beef fattened chiefly in that way. A young friend in this county, P. Graye, was the first who suggested it.

N. M. C.

Calm Point, Va., Feb., 1850.

There is great danger of feeding to animals, diseased or decayed food of any kind. Some species of decay are not injurious, others are positively dangerous. The rot in the potato of late years, has in many instances, not diminished the fattening properties of the root, as it was the tissues or nitrogenised portions of it that were decayed, while all the starch, from which the

fat is principally formed, remains unimpaired for some time after the commencement of rot.

So it is frequently with grain. The starch is little liable to decomposition, or disease, and is only induced to it, by the proximity (close juxtaposition) of the albuminous (nitrogenised) parts, which communicate incipient fermentation, which, under favorable circumstances, rapidly proceeds to destructive decomposition.

The ill effects of this species of food is shown in the fact quoted by our correspondent above, that a steer fed upon it became paralysed, and a change was essential to prevent this terminating fatally. We have known a choice herd of swine swept off by feeding on wheat that had been damaged by leakage on ship board. To insure safety under such feeding, a person must know just what he is about, and the precise quality and condition of the article he is feeding.

PATENT-WIRE RAILING.

BELOW, we give another pannel of the beautiful wire railing noticed at page 81 in our March number. It is well suited for guarding low windows, balconies, and the lighter kinds of fence, as well as ornamental gates. It is strong, durable, and may be painted any color desired.

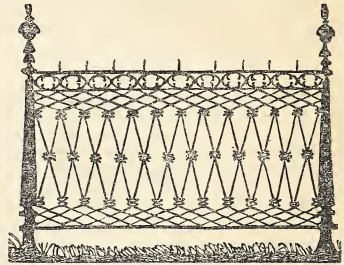


FIG. 46.

This article, we again repeat, may be advantageously introduced in all situations where wood and cast iron are used for railing, grating, &c., at less than half the cost of the latter.

MERINO SHEEP IN VIRGINIA.

My time is now much taken up in improving the old fields and waste lands of this neighborhood, with Merino sheep, which pay a better profit than any other stock or method of farming lately tried in this country. I have purchased and driven into Fairfax and Prince-William counties, between 3,000 and 4,000 head. They are scattered about on different farms and are doing well. They are hardy and yield superior wool, which is in much request with the manufacturer.

I am in want of a shepherd and other assistants, and would give good wages to steady men, and contract with them for several years. It would be a good chance for young farmers here.

H. N. ANDREWS.

Fairfax, Va., March, 1850.

PROFITS OF FARMING.

From the farm of Wm. Webb, of Wilmington, Delaware, containing 100 acres of strong clayey soil, 20 of which are in pasture, the sales of the produce, in 1848, were as follows:—

Hay,	\$716.35
Corn,	557.13
Wheat,	254.00
Oats,	10.00
Straw,	18.50

\$1,555.98

Produce used at home.

7 tons of hay—market value,	\$84.00
120 bushels corn, “	66.00
63 “ wheat, “	63.00
50 “ oats, “	15.00
40 “ potatoes, “	25.00
20 “ buckwheat, “	14.00
Apples and sundries,	25.00

Summer feed for 2 horses, 2 cows, 4 oxen and 1 hog, the whole stock upon the farm, is worth,

\$352.00

Making a total of \$1,907.98. The sales in 1847 were \$1,753.36. The average annual expenses of manuring and working the farm \$500.

As a matter of course, manure was a large item in the expense account; for, only a few years ago, this was a very poor farm.

IMPORTED SHORTHORNS.

THERE has lately been furnished me by a friend, a leaf from the Agriculturist of 1848, with a request that I should give, through the same channel, an opinion upon some portions of Mr. Bates' letter. In his letter to Mr. Vail, he says, "No animals of the Princess blood can now be had in England, *worth sending* to America, except what I have, descended from the Matchem cow, the grandam of your Wellington; and that tribe was only preserved by putting the Matchem cow to bulls of my Duchess family. * * * I have been thus particular to let you know how highly I prize this tribe, the *only one* left, of any value, from the Princess tribe of cows."

Now this is a very extraordinary sentence. Are we to believe that there is nothing worth sending to America, of the Princess tribe, except the few Mr. Bates had? I have no doubt but the animals imported last spring by Mr. Stevens, of the Princess tribe, were really fine. And I suppose Mr. Bates must have let his prejudice get above his judgment. I think, however, Mr. Stevens is mistaken in saying "The pedigree of the Princess tribe traces farther back than any one recorded in the Herd Book." But I presume the reasons upon which my opinion of his error is founded would not be interesting to your readers. Mr. Stevens says, in speaking of 3d Duke of Cambridge, that "he is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland," &c. I would inform Mr. Stevens that Locomotive, brought to Kentucky by Mr. Letton, was got by Mr. Bates' "crack prize" bull, Duke of Northumberland, and his dam was

Mr. Bates' "crack prize" cow Oxford. And here, permit me to say, that Mr. Bates' Oxford cow was got by Duke of Cleveland, (1,937,) a bull of the Daisy and Duchess tribes. And here I hope Mr. Stevens will permit me to correct an error into which he has fallen. He says, (page 67 American Head Book,) that Mr. Bates, "Up to the introduction of Belvedere to his herd, had adhered to his Duchess blood entirely (except in the case of two or three cows, put to Marske).

* * * * Since 1831, Mr. Bates has used that blood, a union of the Duchess and Princess tribes, mainly, and has only resorted to any other in one instance, viz: Cleveland Lad." Mr. Bates bred to bulls of other tribes in many instances. I shall content myself by giving a few specimens, and those that are interested can trace the matter much further by examining the Herd Book. In vol. iii., Coats' Herd Book, you will find that Belvedere, (1,706,) was calved in 1826. I suppose he was introduced to Mr. Bates' stock in 1831. You will find also, (page 355,) that Duke of Cleveland, bred by Mr. Bates, was calved September, 1831, and was got by Bertram, (1,716,) a bull of the Daisy tribe. In 1835, Mr. Bates bred Duchess 33d to Norfolk, (2,377,) a bull neither of the Duchess nor Princess tribe on the dam's side. In 1833, (page 354,) Duchess 19th had a c. c., Duchess 35th by Gambier, (2,046,) and he was neither Duchess nor Princess tribe. In 1833, Mr. Bates' Matchem cow had a roan c. calf by Gambier (2,046,) and in 1834, she had a roan cow calf Oxford, by Duke of Cleveland, (1,937). Both these bulls were got by Bertram, (1,716,) a bull of the Daisy tribe. Of this bull Bertram, (1,716,) Mr. Coats, editor of the English Herd Book said, "This bull combines more perfection in form, handling, and dairy qualities, than any bull I ever saw. I consider him very much superior to Old Comet, bred in my neighborhood and sold by public auction for 1,000 guineas." That the Daisy tribe of shorthorns were considered by bidders at C. Collings' great sale, in 1810, equal to any others, is evident in the fact that a cow of that tribe, (Lilly,) sold for 10 guineas more than any other cow of any other tribe.

In the January number of the Cultivator, is given Mr. Bates' opinion, that the Duchess tribe of shorthorns is superior to all others; but I should not be disposed to attach much value to his opinion, after reading his letter to Mr. Vail, about the worthlessness of all the Princess tribe of cattle, *except what he had*. Mr. Chapman has attributed too much Duchess blood to the Duke of Northumberland. He is not even a quarter Duchess. Mr. Vail's Duchess, according to pedigree given on page 54, January Cultivator, can have no more than an eighth of Duchess blood in her—3d Duke of Cambridge can have no more than Mr. Vail's Duchess.

I heartily concur with Mr. Chapman in the hope that some of our enterprising citizens may introduce some of the best of Mr. Bates' herd. But, as to the Duchess blood "*without alloy*," there is no such thing in existence. You would be astonished to see how little of the "*pure*" Duchess blood there is in any of them. But I

do not consider Mr. Bates' stock any the *less valuable* on that account. The Oxford premium cow no doubt owed her excellence to the union of the three tribes, the Daisy, Duchess, and Princess; and I believe that none of these tribes can be kept pure for a great length of time without endangering their health, thrift, and productiveness. Mr. Bates' herd was nearly ruined before he introduced the Princess and Daisy blood.

Mr. Bates' stock, if equal to their reputation, would be a great acquisition to the breeders of shorthorns in the United States, particularly in those situations where the breeder was near market; but a circumstance mentioned in his letter to the publisher of the plate of his bull, Duke of Northumberland, is indicative of great tenderness or bad travelling, or perhaps both. In that letter he says, "Duke of Northumberland, in twenty-six days' travelling, lost 392 lbs., or more than 15 lbs. a-day." I suppose he was driven with as much care as possible. If his stock should communicate this quality to their descendants, they would be in a very sad plight after a travel as far as from Kentucky to New York. However, I would like to have some of his stock and run the risk of their descendants' travelling, after they were fattened for market.

I have written the above not in a spirit of controversy, but to correct erroneous impressions. And to show that even Mr. Bates' stock owes a part of their excellence to other blood beside the Duchess, Princess and Red-Rose tribes. His old Duchess cow was by Daisy bull, (186,) so that he started with as much Daisy as Duchess blood; and Duchess 1st, bought at Mr. Colling's sale, in 1810, was by Comet, (155,) her dam by Favorite, (252,) grandam by Daisy Bull, (186,) great grandam by Favorite, (252,) great grand grandam by Hubback (319). From this pedigree, it will appear that Mr. Bates' cow Duchess the 1st., had only $\frac{3}{4}$ part of Duchess blood to begin with; there were 31 parts of other blood, and only one of Duchess. As little as this is, it has been diminished since by other tribes having come into the family, as the Daisy, the Red-Rose, and Princess. However, I suppose there is enough "*Duchess blood*," to brag on, left.

Mr. Bates, in his extraordinary letter to Mr. Vail says, "I have never seen one of the Princess tribe after a cross of any other blood, than the Duchess tribe of bulls, ever breed well again." Yet his Oxford cow is directly in proof of the fallacy of the assertion. The dam of his Oxford cow was by Matchem, a bull of another tribe, and his Oxford cow herself was by Duke of Cleveland, (1,937,) a bull of the Daisy and Duchess tribes.

SAMUEL D. MARTIN.

Near Colbyville, Ky., March, 1850.

Our readers will find an answer from Mr. Stevens, to the above, at page 150, so far as it relates to himself personally. Mr. Stevens requests us to say that he will, in a future number, reply to those parts of Dr. Martin's article, which he has not noticed in this one.

TRIAL BETWEEN TWO AND THREE-HORSE PLOWS.

A PLANTER on the Roanoke River, North Carolina, informs us that he made a trial to see which would do the most work in a day, six horses in two plows, or six horses in three plows, with the following result:—

The two plows worked 9,500 corn hills, and the three plows worked 12,480. Number of hills to the acre, 2,172. Length of rows, 720 yards. Some of his rows were 1,300 yards long; he never makes short rows when it is possible to make long ones, as in his opinion a team will do ten per cent., at least, more work in long rows than in short ones, and with less fatigue.

In the above-named trial, the plowmen were not aware of the experiment until after the work was done.

SHEEP SHEARING AND SACKING WOOL.

THIS should not be done sooner than the season will admit, as the sheep would be in danger of taking cold. Wool, intended to be sent to a distant market, may be put up and pressed in bales after the manner of cotton, or it may be crowded into sacks holding from 200 to 250 lbs. If designed to be shipped on a long voyage, it would be more economical to press it into square bales, as it would then occupy less bulk, and consequently effect a saving of freight. But in the interior of a country where conveniences for baling are not always at hand, sacks may be employed, made of 40-inch "burlaps," or 45-inch "gunny cloth," $7\frac{1}{2}$ feet long. Each of these sacks may be made of a piece of cloth 5 yards in length, by doubling the ends until they meet, and sowing up the sides with twine.

The mouth of a sack may next be sewed to a strong hoop of wood or iron (diameter 25 inches for the burlaps, and 28 inches for the gunny cloth); then let down its body through a circular hole, two inches less in diameter than the hoop, cut in an upper floor of the building, or of a temporary scaffold erected for the purpose, where it can swing clear beneath. One man may then get into the sack, while another hands him the fleeces, which he should place in regular layers, pressing them down in the mean time, with his feet, until it is filled. After this, the sack may be slightly raised, the hoop disengaged, the mouth of the sack sewed up with twine, and the operation is complete.

MANAGEMENT OF ANIMALS.

In *breaking or managing a horse*, however intractable or stubborn his temper may be, preserve your own. Almost every fault of the brute arises from ignorance. Be patient with him, teach and coax him and success, in time, is certain. There are tricks, however, which are the results of confirmed habit or viciousness, and these sometimes require a different treatment. A horse accustomed to starting and running away, may be effectually cured by putting him to the top of his speed on such occasions, and running him till pretty thoroughly exhausted.

A horse that had a trick of pulling at his bridle and breaking it, was at last reduced to better habits, by tying him tightly to a stake driven on the bank of a deep stream. With his tail pointing to the water, he commenced pulling at the halter, which suddenly parting, over the bank he tumbled, and after a somerset or two, and floundering a while in the water, he was satisfied to remain at his post in future, and break no more bridles.

A ram has been cured of butting at everything and everybody, by placing an unresisting effigy in a similar position; when the sudden assault on a wintry day, resulted in tumbling his ramship into a cold bath, which his improved manners took good care to avoid in future.

A sheep-killing dog has been made too much ashamed ever again to look a sheep in the face, by tying his hind legs to a stout ram, on the brow of a hill, while the flock were quietly feeding at the bottom. On being set free, and somewhat startled at setting out, in his haste to rejoin his friends, he tumbled and thumped master Tray so sadly over the stones and gullies, that he was quite satisfied to confine himself to cooked mutton thereafter.

Man's reason was given him to control "the beasts of the field and the birds of the air," by other means than brute force. If he will bring this into play, he will have no difficulty in meeting and overcoming every emergency of perverse instinct or bad habit in the dumb things, by his superior cunning.

MR. ROBINSON'S TOUR.—No. 17.

North-Carolina Farming.—Having heretofore given some items of the products and expenses of cotton, sugar, rice, and wheat culture, I will now give, by way of comparison, the amount of expense and sales of a corn plantation on the Roanoke River.

The tract contains 1,785 acres, valued at \$13 per acre. About 1,250 acres of it are open land; 650 usually in corn, the remainder in grass, or "resting." It is composed of rich alluvial bottoms, which are liable to overflow, and "high land ridges," that are comparatively poor. The corn is usually planted upon the richest land, 1 foot by 5, and on the upland, 4 ft. 9 in. by 3 ft. 3 in., one or two stalks to the hill. The average yield, last year, 29 bushels to the acre. The land is deep plowed with two or three horses or mules, and almost exclusively worked with plows, particularly upon the upland, and at the last working, sowed with peas. These are fed off by cattle and hogs, of which more are kept than enough for plantation use, though the proprietor is of opinion that keeping cattle upon a grain farm, is poor business. His cattle only pay six per cent. Hogs should only be kept to just that extent required for home consumption and to eat the offal. Feeding corn, at 50 cents a bushel, makes dear pork. Hogs are considerably fattened upon peas and oats, the latter being sown in large quantities to furnish pasturage for hogs and horses. Corn is usually planted the last of March or first of April,

and is ripe enough to commence gathering the second week in October. [?]

The following tables of expenses and sales will be found interesting. It is to be presumed that a full supply of wool for clothing the negroes is grown upon the place, and that the proprietor never bought an article of provisions. The usual average number of hogs, about 200 head, and cattle 100 head. Horses, mules, and colts, 30, sheep, 100. Stock winter in the corn fields. All the land, except some wet spots, is cultivated upon the "level system." That is, the ground is plowed as deep as it can be, and then furrowed with a two-horse plow and planted in the bottom of the furrow, and covered with plow or cultivator. Great benefit has been derived from ditching, draining, and *deep plowing*; and that, the proprietor believes, will improve almost any land, and increase its productiveness as it will be seen has been done upon this.

1844.—PLANTATION EXPENSES—25 FULL HANDS, 19 FLOWS.

Overseer's wages,	\$160.00
Hire of 8 hands,	210.00
Clothes and taxes for hired hands,	50.00
Bagging and rope,	91.56
Iron, salt, and plows,	45.00
Clothing bought,	25.00
Hats and blankets,	36.00
Taxes on negroes,	50.00
Physician's bill,	40.00

\$707.56

80 acres of cotton made this year, yielded 1,500 lbs. an acre of seed cotton. Interest on \$31,500 capital, 6 per cent., \$1,890. Amount of sales, \$4,840.25, or a fraction less than 16 per cent. on capital.

1845.—22 HANDS—14 HORSES.

Overseer's wages,	\$200.00
Hire of 4 hands,	158.00
Nails, spades, shoes, &c.,	13.00
Salt, \$12, taxes, \$55,	67.00
Physician's bill,	45.00

\$483.00

Capital same. Sales \$4,138.78. Credit plantation for articles at selling prices. \$298.34. Total, \$4,437.12. Crop all corn, 540 acres, 12,975 bushels, or 2,595 barrels, sold for \$2.58 a barrel, at home. Net to hand, \$181.75, over 15 per cent. on capital.

1846.—24 HANDS—15 HORSES.

Overseer's wages,	\$225.00
Nails and salt,	17.63
Plows, scythes, &c.,	54.67
Clothing and leather,	20.52
Hats and blankets,	52.02
Cotton cloth, plows, &c.,	53.25
Cotton yarn, \$13, taxes, \$60,	73.00
Hire of one hand,	50.00
Physician's bill,	80.00

\$626.09

Sales, \$4,828.18. Corn at \$3.64 a barrel.

Crop lost by flood on low ground. Net to hand, \$173, and over 14 per cent. on capital.

1847.—26 HANDS.

Overseer's wages,	\$250.00
Hire of one hand,	40.00
Salt \$16, leather, yarn, &c.,	\$21.50, 37.50
Nails, leather, cloth, and sundries,	100.36
Cutting oats, \$10, taxes, &c.	70.00
Blacksmith's bill,	68.92
Physician's bill,	52.25
Lard kegs, \$9.88, plows, \$15,	24.88
	<hr/>
	\$643.91

Sales, \$5,983.17. 600 acres of corn, sold at \$2.46 a barrel. Net to hand, \$205.75.

1848.—28 HANDS—CAPITAL \$42,765.

Overseer's wages,	\$275.00
Hire of two boys,	108.00
Salt, \$14, taxes, \$68,	87.00
Cloth, leather, hats, &c.,	136.47
Cutting oats and wheat,	12.00
Shoes, \$9, blankets, \$32,	41.00
Iron and plows,	68.00
Physician's bill,	47.00
Blacksmith's bill,	65.92
	<hr/>
	\$840.39

Sales, \$5,006.51. Corn \$2.12½ a barrel—650 acres. Net to hand, \$148.75.

The proprietor has just commenced the use of lime and is of opinion that it will pay a profit upon the expenditure more certain than any other outlay he can make. The Roanoke Bottoms, that are overflowed upon an average once in seven years, will yield eight and a half barrels of corn to the acre, including years of loss. The average value of such land is about \$15 an acre. The uplands, may average \$2.50 an acre, and yield about two barrels, (ten bushels,) to the acre. The best corn land on the river will average 10 barrels.

In connection with this subject, I give the following statement of another place near Tarborough, upon which the principal crop is cotton. The average number of full hands, 25, and average amount of expenses per annum, \$650, of which \$300 is for overseer's wages. It is worthy of remark, that the same overseer has been in the same employ fourteen years. The proprietor took possession of the place in 1844, and the sales that year amounted to \$1,500.

In 1845, \$2,500. 1846, \$4,200. 1847, \$4,500 1848, \$4,600. 1849, \$4,200, leaving still on hand about \$400 worth of surplus. During the same time, complete new buildings and fences have been erected, and the value of the land more than doubled, and more than quadrupled in productiveness.

Now how has this been accomplished? By ditching and draining swamp land, naturally rich, but too wet to produce any crop; by using improved plows, and plowing the old fields up deeply; by creating manure for the poor barren sands; but principally by digging and spreading immense quantities of marl, or rather, sea-shell deposits, which, until now, had lain idle

and useless, while the former owner was starving. This marl contains about thirty per cent. of carbonate of lime, and in some instances has been used at the rate of 600 bushels to the acre, so that from being one of the poorest, this farm has now become one of the most productive in the country. His average to the hand, last year, was \$222, and although cotton brought a high price per pound, his crop was unusually light—200 acres produced 53,000 pounds. He makes all his provisions, and nearly all his clothing. His rations are five pounds of pork per week, for all field hands, and all the bread and vegetables they will eat. He now averages six barrels of corn to the acre upon land, that, before it was marled, would not average two. Plants cotton last of April and corn first of May.

HOME-MADE GUANO.

PERMIT me to inform some of your readers how I supply myself with guano of domestic origin. My privy stands square on the ground without any excavation or vault underneath. A board 12 inches wide swings upon a pair of butts, or hinges, on the back side. Turning this up, I sometimes throw under the seats two or three barrow loads of muck; and with a long-handled, shovel used for digging post holes, to be found at any of the hardware shops, I withdraw the richest material for composting to be found in the world.

But this is not all the advantage to be derived from my practice. Keeping the excrementitious matter constantly sprinkled with plaster, (gypsum,) and frequently removing the deposits, especially in summer, my privy is usually as sweet and clean as a parlor, exhaling no offensive nor unwholesome odor, and rendering the devotion due to Cloacina a pleasure rather than a penance.

Some sensible people effect this last object by other expedients, though too many are disgustingly slovenly about this really important matter, so far as decency and comfort are concerned; but my plan enables me to have a very considerable quantity of a fertilising agent, that would make Prof. Norton's Scotchman *smack his lips and snuff up his nose with an unction!* S.

MANURES—THE FOOD OF PLANTS.—No. 1

ALMOST every farmer seems to be aware of the fact, that, by the application of manure to his lands, his corn and other cultivated crops are usually very much increased in quantity; and this increase is generally in a corresponding ratio, to the quantity of manure applied. The great body of the farmers in this country, depend entirely upon that made by their farm stock, and upon that alone. This is applied to the soil in some form, for the reason it causes the plants to grow more vigorously, and to yield larger crops than could be obtained without it.

The almost universal good effects of manure upon farm crops have been so constant and general, that most farmers have remained content with a knowledge of the bare fact, without troubling themselves to ascertain the "why" and the "wherefore" of it; and could every

farmer have a full supply of manure, he would be under no particular necessity of studying into the chemical composition of his farmyard manures.

But among farmers, especially on long-cultivated farms, there is a general complaint of not having a sufficiency of manure to grow either large crops, or to increase the fertility of their exhausted fields. Then it becomes important, in a pecuniary point of view, to the farmer, to learn the nature and properties of the *individual* constituents—the raw material, as it were, that make up in the aggregate, the growth of his cultivated crops, and also, those elementary substances that compose his manure heap. Having ascertained these important and easily-acquired facts, he is then prepared to act understandingly, and by this knowledge, he is frequently enabled to obtain a great variety of materials within his reach, that will serve as substitutes for his barn manures, and at a much less cost than he could purchase stable manure.

To attempt to explain, in a familiar way, some of the principles alluded to, is my object in writing this. The hay, corn fodder, straw, roots, and grain, fed to farm stock, derived their growth from the constituents of the soil, the atmosphere, and water. The food given to an animal, in its passage through him, parts with some portions of the several substances drawn by the plants from the soil, &c. For they are taken up by the assimilating vessels, purposely prepared in the animal, for supplying its daily physical wants, and adding to its growth, if a young animal, and for the purpose of laying on fat and increasing its weight of muscle, &c., if intended for the shambles. Another portion is consumed for the purpose of respiration, and passes off from the lungs as carbonic acid gas. The balance of the food is voided in the excrements—liquid and solid. The great bulk of the solid part consists of masticated vegetable matter, dead plants and their seeds, in a partial state of decomposition, but all, substances of vegetable origin, which, as they formerly constituted living plants, must necessarily contain those matters required for a new growth of similar plants; for it is one of the immutable laws of creation, that the death and decay of one generation of plants and animals, shall contribute to the sustenance and growth of succeeding ones. Then, in general terms, the above explanation gives us the reasons why farmyard manure acts so favorably in increasing the amount of farm produce.

But I remarked, that it was important that the farmer should know the nature and properties of the individual substances that enter into the composition of the plants he cultivates; for, by knowing these substances, he is prepared to make use of many materials within his reach, that answer as substitutes for his farm manure. For this knowledge, we are indebted to the researches of the chemist. From him, we learn what portions of the plant are drawn from the soil, and what from other sources. From the soil, are derived the following-named constitu-

ents of plants, namely, potash, soda, lime, magnesia, silice, iron, manganese, alumina, sulphur, phosphorus, and chlorine. These are termed the *inorganic* constituents of plants, and are taken into the plant from the soil, (by the endosmose action of the extremities of the roots,) dissolved in the water of the soil; and in the plant, they are applied to the various parts, fulfilling, so far as these inorganic bodies are concerned, those special purposes, for which they were designed in the different vegetable products of the earth. These inorganic substances constitute that portion of plants and their seeds, that are left in the form of *ash* after they have been burned. The ash, in general, forms only a small proportion of the weight of the plant. 100 lbs. of wheat leave less than two pounds of ash when burned, the same weight of dry pine or fir wood often leaves less than half a pound of ash, while hay and straw leave from five to ten pounds, from every hundred weight of the dried plant. But small as is the amount of ash that is found in plants, (which ash is made up of the several substances already named,) they are all absolutely essential to the full development, and perfect maturity of the seed-bearing plants.

A soil which is naturally so fertile that it will grow a long succession of crops, without any addition of manure, is found, upon analysis, to contain in its inorganic parts a *notable* portion, or quantity of the several chemical substances above named—potash, soda, lime, &c. Soils are thus constituted in good land, when nearly cleared of the forest growth; and such is the character of the fertile soils of the prairies and other rich lands of the west. But each successive crop harvested removes a portion of these important ingredients from the soil, and annual croppings, without suitable returns of manure in some form or other, sooner or later, reduces these fruitful lands to a state of sterility.

LEVI BARTLETT.

Warner, N. H., Feb., 1850.

IMPORTED SHORTHORNS—REPLY TO DR. MARTIN.

DR. MARTIN's article having been shown me, I deem it proper now, to correct his errors, so far as he refers to me. The Doctor thinks me mistaken in saying that "The pedigree of the Princess tribe traces farther back than any one recorded in the Herd Book." Now the Princess tribe traces back in the Herd Book, in *named* animals to Tripes by the Studley bull, in 1740. None except the Princess and the Wildeyes can, by *named* animales or *known* crosses, be traced a year beyond 1770, and only one tribe beside the Princess and Wildeyes to 1770, and that, Lady Maynard, Comet's family. The Duchess, Daisy and Red-Rose tribes cannot be traced in *known* crosses, a day beyond 1780. I am now speaking of what is *recorded* in the Herd Book. Nothing, whatever, is known in or out of the Herd Book, of the Duchess, Daisy nor Red-Rose tribes, prior to 1780; only that they were good cattle; and of Lady Maynard, (or Favorite's and Comet's tribe,) beyond 1770, it is *known* that they were *bad* cattle. Now of the Princess family, their *printed* pedigree, in the Herd Book, goes to

1740; and authentic records carry them back to 1600, to the Aislabies at Aislaby, Durham, and through Mr. Stephenson, of Acklam, and Mr. Stephenson his son of Ketton, to Mr. Pickering, who bred Tripes in 1748, got by the Studley bull calved in 1740. Thus it will be seen that the Princess tribe, by the Herd Book, traces 30 years further back than all others, and 40 years further back than all others except Lady Maynard. Of course, I am right and Dr. Martin is wrong.

In saying that the 3d Duke of Cambridge "is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland," I meant that he was at that time, July 1849, the only one in America so got. I had been informed that Locomotive was dead, and wrote so supposing. Was I not rightly informed? Will Dr. Martin please to inform me? I well know, and knew then, how Locomotive was bred, and that he had been imported; and meant merely that, as Locomotive was dead, Cambridge was then the only son of Duke of Northumberland, in America; as these two are the only sons of the Duke that ever were imported.

I used the phrase "up to the introduction of Belvedere to his, (Mr. Bates,) herd, he had adhered to his Duchess blood entirely, except in the case of two or three cows put to Marske, &c." By this, I meant he had only run the blood of Marske, Belvedere, and Cleveland Lad, (and his tribe,) *permanently* into his herd. Mr. Bates used Bertram to only one Duchess; the produce was Duke of Cleveland, and he was used only to get steers. He was sire of Oxford premium cow, and his blood has never been suffered to go into the herd at large, and never will be. Bertram was used to only two Red Roses; the calf of one by him died at 6 months, the other, Red Rose 10th, bred but one calf, a bull, called Red-Rose Bull, and him Mr. Bates never used. Gambier was put to only one Duchess, and the produce, Duchess 35th, was never suffered to breed, for she was killed early. Mr. Bates carefully exterminated the blood of Bertram and Gambier from his herd, and not a drop of it is to be found any where in it, except in Oxford 4th, a daughter of Oxford premium cow, and her two calves. The calf by Gambier out of Matchem cow, was never suffered to breed. Norfolk and Marske, like many other animals, descended from Robert Colling's herd, do not show their full pedigrees in the Herd Book. Marske was a Princess tribe bull; what Norfolk was, I will show hereafter, and Dr. Martin will perhaps discover he is no exception to the rule I have stated as to Mr. Bates' breeding. Mr. Bates never suffered any blood not his own to come *permanently* into his Duchess, Red-Rose, Waterloo and Wildeyes tribes, other than that of Belvedere, Marske, Norfolk, and of Matchem cow.

I take occasion here to say that the Matchem cow and her produce, Oxford premium cow, Cleveland Lad, Cleveland Lad 2d., and Oxford 2d., are not of the Princess tribe. She was by Matchem, (no Princess blood in him,) and was bred by Mr. Brown, dam by Young Wynyard

(a Princess bull). The cow by Young Wynyard was bred by Mr. Francis Smith, of Claxton, Durham, and by him sold to Mr. Brown. Mr. Brown sold Matchem cow to Mr. Bates. Here the pedigree ends, and *it is known* that the cattle back, had no connection with the Princess tribe, in *any way*.

In the Herd Book, vol. iii., published in 1836, Matchem bull is said to be by St. Albans, (a Princess bull,) or by Bonnyface (not a Princess bull). This was published *after* the death of Mr. Mason, who bred him. In Mr. Mason's catalogue of his sale in 1829, Matchem is stated to be by Bonnyface, dam by Farmer, &c. Is not Mr. Mason the breeder of Matchem to be believed before others?

It will thus be seen that Matchem cow was not of the Princess tribe, and the only pretension she had to any of that blood was through the cross of Young Wynyard in her grand-dam.

Dr. Martin says, "even Mr. Bates' stock owes a part of their excellence to other blood besides the Duchess, Princess and Red-Rose tribes." This is true so far as the use of Daisy bull, (186,) is concerned, but not as relates to Bertram and Gambier. Daisy bull was of great service to the Duchess tribe. In his Duchess, Red-Rose, Waterloo, Wildeyes, Foggathorpe and Oxford tribes, (all the tribes he has,) the blood of Bertram exists in none of them except Oxford 4th, and her two calves; and Gambier's blood in none. Mr. Bates never did use, and he told me he never would use, a bull out of, or descended from Oxford premium cow, and that, on account of Bertram's blood. Mr. Bates always sold anything out of Oxford premium cow, at very low prices for him, whenever he had an offer. The facts in Mr. Bates' breeding are his, not mine, and I have nothing to do with them but to state them. From many of Mr. Bates' opinions, both as expressed in words and as shown in practice, I dissent. Dr. Martin and myself are here alike, and in this point we fully agree.

It will be observed that, I have, in this article, done nothing but state facts. I have expressed no opinion. For the *truth* of the facts I hold myself responsible, and will prove them if they be questioned; for the consequences of the facts I am not responsible.

Dr. Martin is a most agreeable opponent; he states one's position kindly and candidly, and his own with fairness; and in those cases where his interest is identified with his views, his judgment is not so warped as to make him blind nor disingenuous. His article opens a wide field of discussion; hereafter I will consider it.

A. STEVENS.

MANURE FOR TURNIPS.—A gentleman who has often tried it, informs us that, according to his belief, cotton seed is the best manure in the world for turnips. He drops it in drills, and covers it three or four inches deep, and plants the seed on top of this covering. He believes it prevents the depredation of the turnip fly. Perhaps this is owing to the vigor of growth given to the young plants.

TREATMENT OF MALE BREEDERS.

It is generally customary to keep stallions and bulls confined in the stable, in rather low condition till the close of the winter or spring, and then commence feeding them high, preparatory for the season, still holding them in greater or less confinement. Such a course is entirely wrong. In a state of nature, the males wander at will, enjoying the benefit of fresh air, and take due exercise. Hence the general superiority of wild over domestic animals. The former never degenerate in a state of nature, but the latter do, unless great pains are taken in properly breeding them. The wild horse, the ass, the ox, the buffalo, and the deer, of the present day, are undoubtedly just as perfect as they were thousands of years ago.

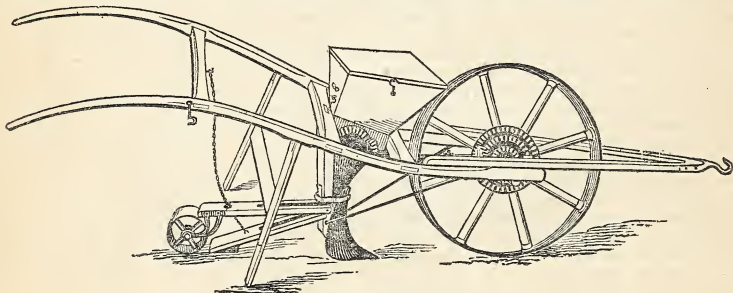
As they cannot be properly controlled, it does not answer to let stallions and bulls run at large, in the pasture with females; and as exercise and fresh air are absolutely essential to their good health and vigor, the best way to obtain these, and keep them in good condition is, to break the former, when quite young, to the harness as well as the saddle, and the latter, to the yoke, and work them regularly, but moderately.

A male, kept fat and in close confinement, his muscles are relaxed, and he is in a weak, fe-

verish state. Now, like produces like, and the result is, that while in this condition, it is impossible for him to get so vigorous and hardy a stock as he would, if moderately fed and properly worked or exercised. But when worked, great care should be taken that he is not put to cover when in the least exhausted. Excessive service, or over work, must be guarded against, equally with idleness and too high feed, as both are decidedly objectionable.

SOAKING CORN IN SALTPETRE.—I have never yet heard of corn soaked in saltpetre causing an explosion, after being taken into the crop of Mr. Crow; but I do know that this Crow family do not relish corn soaked in it. I have tried the plan of feeding crows by strewing corn, not soaked, on the ground, and they soon called together the whole family, even to thirty-third cousins, for a regular feast, and soon ate up the whole given them, after which they pulled up half a field of 20 acres besides, as *dessert*, not leaving even the third planting.

I have soaked corn in saltpetre for several years. It gives the young plant a healthy appearance and vigorous growth in the start, causing it to mature almost two weeks earlier than when planted without soaking. B.



IMPROVED SEED SOWER.—FIG. 47.

IMPROVED SEED SOWER.—This machine, with all its essential parts, has been fully tested in this country and in Europe, and is found to plant all the variously-formed seeds in drills, rapidly and with precision.

The operator moves forward as with a wheelbarrow, when the drill is opened, and the seed is deposited, covered, and the soil is compressed at a single operation. An acre, with rows two feet apart, is easily sown in three hours. Directions for using accompany each machine.

COMPOSITION OF SPRATS.

These fish abound in the waters surrounding Great Britain. Professor Way found a slight variation in the component parts of these fish, according to the different seasons of analysing them, they being fatter at one period than another, thus yielding a larger portion of oil. He found them to contain 63.65 water, 18.6 oil, and 17.75 dry, nitrogenous matter, in 100 parts. The dry matter, after separating the oil,

gave 11.53 per cent. of nitrogen, or nearly 2 per cent., (1.94 precisely,) in their natural condition.

The mineral matter obtained by burning the fish, was 2.11 per cent., and of this, about 42 per cent. was phosphoric acid, 25 per cent. lime, 3.22 magnesia, 19.5 potash, soda and chloride of potassium 1.75, chloride of potassium, 6.75. Many of these constituents are reported as varying materially.

These fish may be considered a fair type of those abounding on our coasts at certain seasons of the year. They are sometimes found in such places, or in such profusion, as to prevent their consumption as manure. We suggest that when this is the case, and peat, or rich vegetable mold can be procured, that they be at once mixed with it, in successive layers, throwing a thick coating of the vegetable matter over the whole. The entire mass will soon be converted into a valuable manure, which, at a favorable season for transportation, could not fail to command a remunerating price among the farmers.

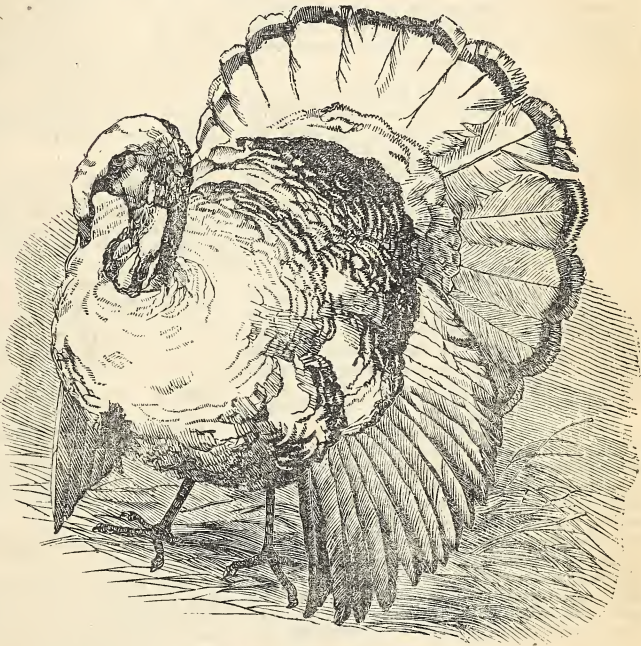
THE TURKEY.

THE domestic turkey can scarcely be said to be divided, like the common fowl, into distinct breeds; although there is considerable variation in color, as well as in size, but no Bantam, or dwarf race, exists, unless we except the small, delicate-fleshed turkeys of Hempstead Plains, near New York, which often weigh, when dressed, not more than 4 or 5 lbs. The finest and strongest birds are those of a bronzed black, resembling, as closely as possible, the original stock. These are not only reared the most easily, but are generally the largest, and fatten the most rapidly. Some turkeys are of a coppery tint, some of a delicate fawn-color, while others are parti-colored, grey, and white, and some few of a pure snow-white. All of the latter are regarded as inferior to the black, their color indicating something like degeneracy of constitution, if not actual disease. A variety is said to exist in the aviary of Madam Backer, at the Hague, with a topknot springing from the crown of the head, resembling that of the plumed Poland fowls.

Incubation.—The turkey hen is a steady sitter, and in this respect resembles the wild bird—nothing will induce her to leave the nest; indeed, she often requires to be removed to her food, so overpowering is her instinctive affection; she must be well supplied with water within her reach; should she lay any eggs after she has commenced incubation, these should be removed—it is proper, therefore, to mark those which were given to her to sit upon. The hen should on no account be rashly disturbed; no one except the person to whom she is accustomed, and from whom she receives her food, should be allowed to go near her, and the eggs, unless circumstances imperatively require it, should not be meddled with.

On or about the thirty-first day, the chicks leave the eggs. Now, in a state of nature, the wild hen always manages far better than she would do if interfered with by man, were his interference possible, and so we believe with

the domestic turkey hen, if her nest be placed (and it might in a certain degree,) as it is in nature; this we know, that turkeys which have laid their eggs in out-of-the-way places, and have been allowed to incubate there, have brought their troop of downy younglings into the farmyard with evident pleasure and satisfaction—no extra attention having been paid to them. It is usual, however, in Europe and the northern parts of the United States, to remove the young chicks, one by one, as they make their exit, and place them in a basket of warm flannel, tow, or feathers, until all are out, and then restore them to the hen; this is done as a precautionary measure, lest any accident should happen to them.



THE DOMESTIC TURKEY.—FIG. 48.

In a state of nature, the turkey only rears one brood during the season, unless her eggs have been destroyed or removed, nor will the domestic hen incubate twice, if allowed to rear her own brood; some, however, which like, as the common phrase is, "to work a free horse to death," recommend that the turkey be induced to hatch a second time in the season. This is effected by taking her young brood from her as soon as possible, and mixing it with another brood of the same age, as nearly as may be; her cares being no longer required for her young, and her instincts unsatisfied; she seeks the company of the male, and in about three

weeks, commences laying until the number of eggs is complete, when she re-engages in the task of incubation. But I object to this practice *in toto*. It is cruel and it taxes the system; she has already sat patiently for thirty days, that is four weeks and two days, and surely that is quite enough. Besides, the brood thus hatched will be late in the season, and late broods of turkeys cannot be reared without very great care; they cannot stand the chilly mornings of autumn nor the frosty nights; their limbs become swollen and rheumatic, and they die one after another, few surviving, and these few never become fine, healthy birds from which the breeder would select his stock. Let nature alone. Should a hen lay after hatching her clutch of eggs, and should she, (which is very unlikely,) indicate a desire for incubation, it is better to prevent her, and use the eggs for household purposes.—*American Poultry Yard*.

THICK AND THIN SEEDING.

YOUR correspondent, Nugator, at p. 60, of the February number, has given a statement of his experiments of thick and thin sowing, which have produced entirely different results from similar experiments tried by myself. After testing the matter thoroughly, I am convinced, that, on land like mine, (clay loam,) in this climate, grain, at least, requires to be sown according to the capability of the soil to produce a crop. If it is good, seed thick; if poor, thin.

Experiments tried by me have shown that on land that will produce 50 bushels of wheat per acre, when seeded with two bushels per acre, will not produce over 40 when seeded with one bushel; and in about the same proportion when seeded with 5, 6, or 7 pecks to the acre.

Troy, Oakland Co., Mich.

LINUS CONE.

FATTENING CALVES.

MR. JACOB TAYLOR, of Monmouth county, New Jersey, fattens his calves for market in the following manner:—The calves, in the first place, are put into a pen, or stable, lighted only by a lattice door, the number of calves, of course, corresponding to the size of the pen.

The feed, which is usually Indian meal, is placed in a trough situated about 2 feet above the floor, sufficiently large to accommodate each calf. The older ones soon learn the younger ones to eat from the trough. Adjoining the pen, there is a yard for the cows, into which the calves are turned whenever it is necessary for them to suck.

The older calves are taken to market as soon as they are ready, and their places filled by young ones, thus keeping up a constant supply of delicious veal during the season. A. S.

EXPERIMENTS WITH ROOT CROPS.

AT page 192, vol. viii., of the *Agriculturist*, you requested some one to try an experiment with roots, on a green sward. In accordance with that request, last year, I sowed a small piece of ground with carrots, and although the experiment was only partially successful, I considered it as one of the most profitable crops, as feed for store cattle, of the season.

The land had been pastured for five years previous to plowing, and cattle and sheep had sometimes been yarded upon it. At the time of sowing, it received not much manure, as that had mostly been applied to other crops, and the little that was applied was harrowed in. I sowed one third of an acre with orange carrots in drills, 20 inches apart. The seed had not been soaked and was a long time in coming up; and at harvest time, the drills were not more than two thirds filled with the roots. The crop was fed to horses and store pigs. The expense and profit were as follows:—

EXPENSE OF CULTIVATION.			
May 18, 1849.	To fit $\frac{1}{3}$ of an acre,		\$1.00
" 22,	" Sowing with drill and seed,		0.75
June 12,	" 1 bushel plaster, and applying,		0.38
" 22,	" 2 days' weeding, first time,		1.25
July 3,	" $3\frac{1}{2}$ days' do., 2d time,		2.17
Aug.	" 1 day's weeding,		1.00
Nov. 7,	" 7 days' dragging,		3.06

Whole expense, including board, \$10.07
Cr.

By 150 bushels carrots, estimated at \$18.75

I also tried another experiment with ruta bagas, the expense and profit of which were as follows:—

EXPENSE OF CULTIVATION.			
May 22, 1849.	To fitting 1 acre joining the carrots,		\$3.00
" "	" Carting 12 loads manure,		1.00
" "	" Plaster 2 bushels, and applying the same,		0.62
June 9,	" To drilling in seed and seed,		1.25
" 22,	" To weeding, first time, 2 days,		1.25
July 9,	" $2\frac{1}{2}$ days' weeding,		1.88
Nov. 13	" $7\frac{1}{2}$ days' digging and securing,		3.00

Whole expense including board, \$12.00
Cr.

By 420 bushels ruta bagas, estimated worth 6 $\frac{1}{2}$ cts. per bushel, for feed, \$26.25

In the first place, I sowed too little seed, and in the next, the flies made sad havoc with the plants, and the weather being so dry that those transplanted did not live. The later sowed produced roots of a better quality than the earlier, and they were nearly as large, yet the yield per acre was much less, as a greater proportion of the crop was destroyed.

I fed the greater part of them to store cattle, and I find that one bushel per day, with the addition of good oat straw, will keep an ox in good condition when he is not at work.

STEPHEN R. GRAY.

Salem, N. Y., March, 1850.

MILKING COWS.—Let care be taken that your cows are milked clean; the last milk is much the best. Cows are often spoiled by lazy, careless milkers.

FARM FENCES

AMONG all the difficulties attending the cultivation of land in the United States, nothing is more constant in taxing our ingenuity and purses than the construction and repair of our fences. It is only in the hardest and most rugged soils, and where cultivation is also the most expensive, and of consequence the least remunerating, that stone, the most indestructible of all fencing materials, is found in quantity and kind, which will admit of its use in point of economy. Yet the manner in which it is thus used, although costly at first, being from \$1 to \$3 a rod, serves the double purpose of clearing the land of a heavy incumbrance, and working that incumbrance into a durable enclosure; and such mode of disposing of it is perhaps the best under all circumstances.

The use of stone fences, therefore, can be only locally applied, and in the aggregate to only a fraction of the country; the best and most extensive agricultural regions being without *surface* stones to any extent, they require other than timber, a material which will be efficient, durable, and *cheap*.

I might with great propriety, at this junction of my discussion, go into a very proper homily upon the quite unnecessary, and, to landholders, expensive incumbrance to which they submit, and for all I can say, will continue to submit, to wit: that of tolerating in the communities and neighborhoods over whose local regulations they have the entire control, the running at large of farm stock of every description, and more particularly those pests of every farmer, either good or bad, when thus let loose—hogs and geese. And why it is that they do thus submit to it, not even themselves can tell; but they do submit to it; and so long as they are therewith content, why, upon them be the penalty; and that penalty is a double tax upon themselves, to an amount which would be astonishing and pronounced unendurable were it imposed upon them by any power outside their own premises; but as they never give themselves the trouble to think of it, or cast it up, they seem to be quite content under its operation—therefore let them sleep in their blissful enjoyment. I will only say that a tax infinitely less exacting than this imposed by the mother country, burst out into the American Revolution, and separated the American colonies from Great Britain.

Assuming, as is the fact, that stone for fences in the greater part of our country is out of the question, what is the material for constructing them to the best advantage? I know of but four methods, and they are as follows:—

1. Earth thrown into a mound on one side, which is excavated from a ditch on the other, and thrown into a regular embankment.

2. Hedges, with or without a ditch on their sides.

3. Wood of various construction.

4. Iron wire.

These, I believe, constitute all the ordinary materials at command for fencing purposes, and I propose to examine them briefly.

1. In the deep soils of our prairie country, earth or sod fence has been used to some extent; but the friable nature of the soil thus used, acted upon by the frosts of winter, and the continual goring and treading of cattle in their efforts to overleap it, makes this an inefficient and expensive structure. Although resorted to as a desperate effort to secure their fields by the farmers in the early settlements of the prairies, these sod fences have been abandoned as fast as other materials could be substituted.

2. For partly the same reasons, hedges have not succeeded. And with the characteristic impatience of us Americans to wait for anything, except our *children*, to come to maturity, (and man fast getting too impatient for that, by striving to make men and women of them before they fairly get into boy and girlhood,) not one man in ten will plant a hedge for fear he may want to sell his farm and "move west" before it is grown, and thus lose the cost of it; or if he does not move, that he may want to change the lines of his fields or his farm, and thus his hedge become useless. Besides this, our climate is too extreme in its changes from heat to frost, and too dry in summer for the proper growth of hedges, as in England; and they are also expensive to grow and mature, expensive and troublesome to keep in repair, occupy a large space of ground, and, perhaps more than all, serve as harbors to innumerable vermin to destroy and prey upon our crops. At all events, for more than a century past they have been thoroughly tried in different sections of our country, and volumes have been written upon them, and yet twenty miles of "good and sufficient" hedge can hardly be found in the United States. I consider, therefore, that the adoption of hedges for farming, to any great extent, is out of the question.

3. Wooden fences are the universal enclosures of our farms, excepting those parts where surface stones are an absolute incumbrance, and in the cost of construction and repair of these, we pay a tax that not one farmer in five hundred ever thinks of, and which, if he does think, he dares not calculate.

Wooden fences are of several kinds, some of which I will enumerate. The first, the cheapest, and the best for a farmer commencing his farm in a *wooden* country, is the zig-zag rail fence, called in several states "Virginia fence," made of rails ten to twelve feet long and averaging four to six inches in diameter. This kind of fence costs in construction only, including the cutting, splitting, hauling, and laying it up, when the rails are within half a mile of the fence to be railed, at the very least \$15 per thousand, or for a twelve-foot rail with a five-foot worm, (and six is better,) seven to eight rails high with two rails for lock at each corner—30 cents a rod. Then it takes the very best and most durable kinds of young timber, which must be added to the cost, and this depending entirely upon its market value where the fence is located.

The second and next cheapest kind is post and rail, which, at the cheapest, can be built for

fifty to seventy-five cents a rod, the cost of timber to be added.

The third—and that is as high as a farmer can afford to go—is a post and board fence, say oak, locust, chestnut, and red beech, in cedar posts; and pine, chestnut, or hemlock boards, which will, at the very lowest—and poor at that—cost him a dollar a rod, and if well built, \$1.25 to \$1.50. These fences will last, on an average, probably twenty years—possibly more—but they will require relaying at the end of that time, and more or less repairs annually, after they have stood five years.

These three modes of fencing will gradually become more expensive than now, as our country becomes cleared up, and the value of timber increases; and already a substitute in many extensive sections of country is required.

Now, what is this substitute to be? In my opinion, iron, when all its qualities are taken into account, is to form our most available material. Its cost of manufacture is gradually decreasing in this country, and but a few years will probably pass before we shall make it as cheap here as in England. It is now produced for about half the cost that it was twenty years ago; and even at present prices, our most economical fences, to those who have to buy all the material and pay for the labor, may be of iron.

Within the past year, several practical articles have appeared in the agricultural papers on the subject of wire fences, the most of which, as yet, display on the part of the writers but a theoretical knowledge. Some, indeed, a little practical, but all indicating a wish for information, and giving to the public on their own part their best views on the subject. To these, followed out with my own impressions, I shall give some attention in your next number.

Black Rock, N. Y., LEWIS F. ALLEN.
March, 1850.

CURIOUS CIRCUMSTANCE IN BREEDING FOWLS.

In an article by T. B. Miner, in the March number of the *Agriculturist*, at p. 75, he observes that in order to breed Poland fowls "in pure blood, they must have a yard by themselves, and not even allowed to see other fowls! It is, indeed, a fact, that the mere act of witnessing other fowls in adjoining enclosures, will destroy the purity of the breed." It is a fact—I confined three white Bantams with some Poland fowls. I was very careful not to sit any of the Bantam's eggs, as it was very easy to distinguish them by their size; yet the result was, I had a very different fowl, in plumage, at least, from the Polands. [Was it not sufficient to produce a cross or mongrel breed, to confine Polands and Bantams together previous to their laying, notwithstanding the larger size of the eggs of the Polands?—Ens.]

My experience with Poland fowls abundantly corroborates all that Mr. Miner has written on the subject. Therefore, I shall look with much interest for something more from his prolific pen.

AZEL DOWNES.

Bating Hollow, L. I., March, 1850.

RAILWAY OR ENDLESS-CHAIN HORSE POWER— THRESHING, SAWING AND CUTTING MA- CHINES, &c., &c.

HAVING used one of the above horse powers for two seasons past, for threshing my grain, sawing fire wood, cutting corn stalks, hay, and straw, and for various other purposes; and having fairly and thoroughly tested its efficiency, as a convenient and cheap portable horse power; and having been completely divested of my inveterate prejudices against such powers, as being horse killers, and a source of more vexation and expense, than of profit, I propose to contrast the expenses, advantages, &c., in performing a certain piece of work with Allen's power, with those of the ordinary sweep power.

And here, let me say, that this is just the kind of power which farmers need. It is *multum in parvo*. It occupies but little space, and is constructed on such principles, that a great share of the strength of the horse, which is expended in overcoming the friction of other kinds of power, is applied in this power, almost directly where it is most needed.

When I assert that threshing grain with the 6 and 8-horse powers, owned by jobbers, who itinerate through the country in quest of employment, is attended with exorbitant expenses, with a great waste of straw and grain; and as a general thing, with great inconvenience on the part of farmers, I speak what three fourths of the grain growers would say, were they interrogated on this subject.

If a farmer has 300 bushels of wheat to thresh, (which is usually about a day's work for a large machine,) his expenses, in this region, would be \$4 per hand, a dollar a-day for about 7 or 8 extra hands, and a dollar per day for one or two pair of horses; and to these sums, add the board of hands, and grain for horses, and we have an amount equal to about one tenth of the crop; and besides, it is too frequently the case, that both hands and team ought to be employed in prosecuting the labor on the farm, which demands immediate attention. There is also another important consideration. It is too often the case, that seeds of noxious plants are carried about from not having been thoroughly cleaned, before removing; and it is a very common occurrence, after a machine has been threshing wheat, which contains much pigeon weed, or red root, for this foul seed to find its way into choice wheat fields, where it had not before existed.

A neighbor of mine, who exercises much vigilance over his grain-growing fields, told me that when he employed one of these large machines, it brought to his barn more than a pint of wild mustard seed—enough to keep one weeding for seven years, had it found a receptacle in the grain field. I never discovered any pigeon weed on my farm, until after I had employed itinerant threshers, with self-cleaners, to do my threshing; and I believe that if each farmer had done his threshing with a machine of his own, so much of the best wheat land, in Central New York, would not have been overrun with pestiferous weeds. There are thousands of acres of the most valuable wheat land in this, and in

adjoining counties, which produce, with each wheat harvest, an abundant crop of *pigeon weed*, *Ackley's clover*, or a variety of the May weed, owing to these itinerant threshers. If a farmer is so unfortunate as to have much foul seed of any kind among his grain, by threshing it, at a season when it is most convenient, if he threshes with such a machine as *Allen's*, very little, if any, of the foul seed will be carried off with the chaff and straw, and find its way into the manure, as is the case when grain is threshed with self-cleaners. But, if the foul seed is all retained with the grain, it is an easy matter to separate one from the other, and thereby prevent its being returned to the field with the manure.

There are but few farmers, who cannot thresh all of their grain on their rainy and leisure days, and incur very little expense, if they had a machine of their own. Since I have owned one of *Allen's* powers, it has not cost me one bushel in twenty to thresh my grain. With two light horses, by changing them every hour, and with two men and a boy, I threshed forty-five bushels of wheat in half a day.

And here, permit me to speak of another advantage and source of profit, by threshing with such a machine. We may thresh about a half a day, and use the straw to a much better advantage, than when it is all threshed at once; for, when it has but just been threshed, cattle and sheep will eat a great deal of it; and besides all this, managing in the way proposed, the sheds and stalls of stock are more likely to be littered with dry straw, which I ever consider a great addition to their thrift and comfort, during the cold and stormy days of winter. During the cold winter months, most farmers find little to do, to a good advantage; and, in my opinion, they can work at nothing more *profitable*, than threshing their grain and taking care of their stock, &c. After I have threshed a part of a day, the straw is passed through a corn-stalk cutter, which is driven by horse power, with which I cut all of my corn stalks and hay; then the hay, corn stalks, and straw are wet with water, and a little corn or oat meal applied, and cattle eat it with as much avidity as one would eat the best New-Jersey *slap-jacks*.

There is another advantage in having such a horse power and threshing machine. Many farmers, like myself, wish to thresh their seed wheat, in the fall, but do not want their whole crop threshed so early in the season; but if they are obliged to depend upon an itinerant thresher, they are too often sadly disappointed in the consummation of their plans, with regard to early seeding. But with one of this small kind of machines, three or four hands, during a part of a rainy day, could thresh all the seed wheat that an ordinary farmer would be likely to sow, in one season. I have known instances where farmers have been hindered in their seeding, more than *two weeks*, when their ground was ready for the reception of the seed, simply because they could not get a machine to thresh it. And, furthermore, it is frequently the case, that time enough is consumed, in going after,

and removing a machine, to do up the necessary threshing for the time, if one had a machine of his own.

Another advantage of this kind of horse powers, over the sweep power is, *one* man can use it for cutting hay, &c.; whereas, the horses, on a sweep power, would require a driver.

In order to give an idea of what one man can do with this kind of power, which he could not do with a sweep power, (because he would need a driver,) permit me to state briefly, what I perform with mine. I have about thirty-five acres of tillable land; and I use one of *Allen's* horse powers, to do my threshing. I use it to turn the fanning mill, instead of a hired man, when I clean grain. Instead of a man to turn the grind stone, I let a horse do it. With it I drive my turning lathe; and I design to use it for grinding grain. I also drive a saw which cuts all my fire wood. The past season, I have been erecting a new dwelling house, and with a small buzz saw, placed on the shaft of my fire-wood cutter, with one horse, I, alone, can slit out more lumber for cornices, window frames, door frames, and whatever needed slitting about the house, *than eight men with hand saws*, and with a great deal more accuracy. There are many other purposes where one man can manage this kind of horse power, where it would not be at all feasible for him to use a sweep power. It has been the means of saving me many dollars, which I should have been obliged to pay for the performance of manual labor; and it has enabled me to make use of *every small piece* of plank or board in the most economical manner. Pieces of plank were readily cut into thin strips for blinds; and pieces of boards, into laths, so that everything was worked up. I use it for driving a buzz saw, for cutting the tenons on pannel doors; and one can cut more tenons in eight or ten minutes, with it, than a joiner could in an hour, with a hand saw. The tenons on a four or six-pannel door, a joiner would probably make in an hour and a half; but with such a machine as mine, he would be able to do it in five or six minutes. It is true, indeed, that all this may be accomplished with a sweep power; but it could not, ordinarily, be done merely with *one horse and one man*. Were I to erect another dwelling house, I would not be destitute of the aid of such a machine, for half its value.

In conclusion, let me assure my brother farmers, that I have written what I do know, and testified what I have seen, and what I have performed with my machine—another, with a machine similar, cannot fail to do. If you will procure one of this kind of horse powers, for threshing your grain, cutting your straw, corn stalks, hay, my word for it, it will pay for itself. By cutting my fodder, for two years past, I have saved, at the lowest estimate, two tons of hay per year, which would be equal to twenty-eight dollars; whereas, when I practised feeding whole or uncut fodder, I was, nearly every season, under the necessity of purchasing hay, in order to sustain the same amount of stock, which I now keep.

S. EDWARDS TODD.

Lake Ridge, Tompkins Co., N. Y.

REVIEW OF THE MARCH NUMBER OF THE AGRICULTURIST.

The first thing to be noticed, is the value of this number. It is one of the best ever issued, and is worth to any subscriber, the dollar that he paid for the whole year. I now proceed to call attention to some of the most valuable articles it contains. One of the objects of these reviews is, to refresh the minds of readers who may have passed over the matter carelessly. So much by way of explanation to new subscribers. I fancy old ones know me by this time, or rather, know my object.

Naked Fallows and Naked Soils Tend to Sterility.—This sentence ought to be adopted as a standing motto of every agricultural society in the country. Every country school house should have it printed upon the wall, with the addition that *shade always improves land*. Even a stone or block of wood always makes a rich spot where it lies. Why is the ground where a building has stood, or even a common rail fence, always rich? It is because it has been shaded. One of the most ruinous systems of cultivation ever pursued, is that of "resting land." Does forest land ever rest? There is just as much need that it should, as to rest corn land. I believe that the land is more exhausted by the burning sun after corn ripens, than by the crop grown upon it. Hence the importance of covering the ground with something that will make shade, after the grain is harvested. I differ from the writer of this valuable article, in one point. I very much doubt the policy of keeping cattle upon a grain farm to eat off the crops and scatter their "droppings." I have a very shrewd, queer sort of a neighbor, that raises more corn, wheat, oats, and rye, than any of us, who says there are four or five great curses that he constantly prays to be safely delivered from. These are "rum, politics, hounds, hogs, and horned cattle." With the two latter, are included the curse of fencing against your neighbors' stock, when you do not keep any yourself; with the first, the curse of neighborhood quarrels, about the "unruly animals; and with the second, the curse of sending such men to make laws, as will not do away with the odious fence law, for fear of losing popularity among that class whose stock are always pirating upon their neighbors; with the third, the curse that prevents the growth of millions of pounds of wool, because the dogs kill the sheep.

Poultry Raising.—Although my wife is one of the most amiable of women, she feels almost like coming to the *scratch* with the writer of this article: for she thinks her favorite breed of fowls, the Polands, are sadly calumniated. Take a little more care, sir, of your *cackling* hereafter, or some one will come down upon you yet, like a hen defending her chickens.

The physiological fact mentioned, that the *sight* of other fowls will destroy the purity of the blood, although it may be new to some, is not to me. I think I have read in my Bible about the same kind of cause, producing a similar effect, by that greatest of all cattle breeders,

the shrewd and calculating Jacob. It is a fact, not properly understood, that sight has much to do with giving color to many domestic animals. [What proof is there of its changing the breed of fowls?—Eds.]

Table for Planting Corn, Trees, &c.—Worth ten times the cost of the whole number.

Grand Vegetable Banquet to the Potato, &c.—This is one of those peculiar scintillations of *Punch*, which not only amuse, but instruct. One of the kind and style of articles that ought to enliven the pages of every number of the *Agriculturist*. Because it is the natural disposition of all mankind, to be amused rather than instructed. And he that can combine the two, possesses a happy faculty of doing good. Man is a "laughing animal," and must and will laugh.

Training Cattle and Horses.—"First, procure animals of a good breed, naturally intelligent." Yes, and next, before you undertake to learn them, procure another set of animals naturally intelligent, to train the dumb brutes. Or else all the training in the world may be given, and they will still be as big fools as their masters.

To Cure the Scours in Cattle, and Wounds in Horses, are two valuable recipes that should be preserved for future use. Look to it, and thereby, perhaps, save a horse or cow.

New Mode of Raising Wheat.—It strikes me that this idea of sowing oats with the wheat is one peculiarly well adapted to a country where wheat is liable to winter-kill, in consequence of scarcity of snow, as I think I have heard was the case in Iowa and Northern Illinois, to a greater extent than any other part of the United States. Besides the protection to wheat, if the land is rich and well prepared, the growth of oats will be so great as to add considerable to the fertility of the land. I would recommend an early sowing, to give the oats a chance to get a good growth before frost. The plan will not do at the south, where the winter is not hard enough to kill the oats.

Cows not Giving Down Their Milk.—Easily enough explained. They are not half so big fools as you imagine. And they have perfect control over the flow, not the secretion of milk, and may be educated to almost any process of milking. In some parts of the west, (I have seen it in Ohio,) cows are never milked except by a female, with one hand, while the calf is almost always sucking. Do you think you could sit down, Yankee fashion, and milk such a cow with both hands, into the pail? I should like to see you try it. There are two reasons why cows hold up their milk. One is a nervous affection which requires a few minutes of gentle handling of the teats, to enable them to overcome it. But in nine times out of ten, it is the effect of bad training. Cows which are properly milked, will give more milk than those that are milked by dribblers. The quality and quantity of milk of cows, is in a considerable degree within the control of man. Proper food and good milkers will improve both. Train up a heifer in the way she should milk, and when she is old, she will not depart from it. If any of your physiological correspondents can give

more "scientific reasons" than these, I should like to read them.

Tower's Improved Grain Dryer.—As to this article, it looks as though it would do; though I fear it works too slow, and perhaps takes too much fuel. Is it any better, or so good as a steam dryer? One of the advantages stated in favor of kiln-dried corn is controvertible. That is, that the meal is sweeter. Now, everybody who knows enough to tell a pot of mush from a meeting house, knows that the greener the corn, the sweeter the meal. That it will keep better, if dried, is indisputable. Corn meal, though, to be good, must never be ground long before it is used, and never be ground fine. Remember that.

Pumpkins for Milch Cows.—What! Are our ancient thanksgiving privileges to be encroached upon? Do you seriously recommend us to give the cows our great, rich, yellow pumpkins? Forbid it! Both *mo-lasses* and *lasses*, of Yankee birth, and "broughten-up!" And further, are all our time-honored customs of pumpkins in the corn field, to give place to this new-fangled notion of book farming? And shall we see our best land planted with pumpkins alone? What if the crop should be more profitable? What if the corn should be better alone, and the pumpkins alone? Do you think they would stand it? No sir. You would soon see them creeping through the fence, and claiming protection of their old friends, the corn stalks, saying, as plain as pumpkin vines could say, "What has been so long joined together, let no man put asunder." Be a little careful, Messrs. Editors, how you recommend innovations upon our time-honored customs. Why, the next thing that I shall expect to see, will be a recommendation to plant our white beans in a field by themselves, and not stick them in among the corn hills. We honor the memory of our fathers too much to make any changes in our modes of farming, sir.

Iron Railing, Grating, &c.—"Woodman spare that tree!" need not be sung any longer. Down with it. We have no use for wood any more. Iron houses, iron ships, iron fences, iron furniture, and stone fuel, and the latter about to be thrown into the shade; that is, if there are any trees left by that time, by burning water. And you may even kill the old grey goose, for we write with iron pens now, or gold ones; and even if it is the goose that lays the golden egg, off with her head; for since the discovery of California gold mines, nobody can wait periodically, for a goose to lay. This is the age of gold and iron.

Building and Building Materials.—The author of this article is in love with stone houses. I do not exactly believe in the transmigration of souls; but I do most firmly believe in the influence exerted over men's souls by surrounding circumstances, and that men are, more or less, like the houses they live in. That is, if a family has lived for several generations, in a gloomy, cold-looking, prison-like, old, stone house, they partake of the character of the dwelling they live in. This is one objection I have to stone houses. Next, I doubt their economy. I be-

lieve it will be conceded that a substantial stone house, even in a stony country, will cost double that of a wooden one. But I will take the cost of the stone one at \$3,000, and the wooden one at \$2,000, for the sake of the argument, and give the stone one all the advantage it is entitled to. Now, here are two farmers, one is living in a stone house, at an annual rent, (interest at ten per cent.,) of \$300, and the other one in a wooden house, at \$200 a-year. Now, I contend, that any improving farmer can make his money worth ten per cent. to him, and that five per cent. will keep his house in repair forever; so that I care not how long the stone one lasts, the man in the wooden one will always have a house more comfortable, more healthy, and certainly more cheerful, and in every way more pleasant, upon an average, through all seasons of wet and dry, cold and hot, than in the stone one. Talk not to me of stone, either in hearts or houses. Give me the light, airy, cheerful dwellings of America, in preference to those gloomy old things of Europe and Asia. I have been chilled through in them a little too often for my comfort, or any agreeable, and especially romantic notions connected with them. I sometimes think a child will partake of the character of the house as well as the country in which it is born. No country on earth has so many comfortable and beautiful residences for the mass of the people, as ours; and no country has so much beauty of face and intellect, among the same masses, as this. Look at our lovely, light-hearted country girls, born in wooden houses, and talk not to me of stone ones—cold, gloomy, heart-hardening stone houses.

[We do not agree with our friend Reviewer, altogether in his eulogium of our countrymen and countrywomen. We will grant that the great mass are better educated, and are more intelligent, and *smarter*, (to use an expressive Yankeeism,) than Europeans; but we have not equalled them yet, at least in some departments. Where is our Shakspeare, Milton, Byron, Goethe, Schiller, Dante, Camoens, Bacon, Newton, Laplace, &c.? In point of fine, rosy complexion, good constitution, and *enduring beauty*, our women but poorly compare with those of Great Britain, and other portions of Europe. Nor have we yet produced a De Stael, De Genlis, Sevigné, Moore, Hemans, Opie, Edgeworth, Montague, and a host of others that might be named.—Eps.]

As to brick houses upon the farm, the very sight of them, in a hot day, is enough to drive a man mad. They are only fit for bake ovens, and never will be used for dwellings by a man that is "half baked." Unburnt bricks are only fit for such a country, and such a people, as Mexico. There is nothing to recommend them in this latitude. As for roofing, I agree with the writer, that we are none the wiser for our folly of using poor pine shingles, fastened on with cast-iron nails.

Agricultural Geology, No. 1.—Strange how much good sense, and valuable practical information can be put into so small an article. I am glad we are to have more of it from the same source. I cannot comment upon it, and

point out its value, because I have so many other thing to notice. But I pray you, reader, look it over again. Do not say you don't understand anything about geology. The Doctor will make you understand it. You cannot help it.

Construction of Cattle Yards.—Another very sensible article. Speaking of hauling manure, reminds me that whenever it costs anything near a dollar a load to get manure from abroad, I have proved by actual experiment, that the same amount laid out in guano, will give me a better return. But, after all, as this writer says, the best economy is to save and make manure at home.

Galls on Horses, "may be cured by white lead." That is true. I have always found that ground in oil the best. Try it.

Treatment of Mowing Lands.—A better article than this, and one of more value to the reader, never has been published in this or any other agricultural paper. The direction about harrowing old meadows, coming from so practical a man, I look upon as of great value to the new beginner, or even to the old farmer who has not tried the virtue of that implement upon an old grass sod. In my opinion, the harrow is not used upon wheat and corn half so much as it should be. Those who have never seen it tried, can have no idea how much it improves a field of wheat in the spring of the year, to go over it with a harrow and break the crust which the winter rains have formed. Have no fear of pulling up the wheat. To go over corn in the same way, just after it is up, and breaking the crust which has been formed by the sun and rain, is one of the best things that can be done to start the corn into a rapid, healthy growth.

Tea Nuts.—This reminds me that I have often seen buds in tea, that I have been informed, when a boy, was tea seed. But I have since been told that these were the buds of the *Olea fragrans*, which are used to scent the tea, and that without some artificial flavor, it would have little or none.

What Farmers ought to Know.—We know it? Now, let us see you make us know it. Why, this writer would actually have farmers educated, "just like a doctor." Preposterous! Would you destroy their happiness? Is not ignorance bliss? And is the farming class generally in any other than the sublimest state of bliss. It were a great pity to disturb them. "The farmer should be a botanist." Well, is he not? Don't he know a corn stalk from a turnip, and a thistle from a strawberry plant? What more would you have? "How does the seed germinate?" What is it to us? Don't we know if we plant corn it grows, and if it don't we replant? What more does the farmer want to know? Don't talk to us about your "book farming."

Blacksmiths' Portable Forge and Bellows.—This is a capital invention. I should think it well suited to plantation use, at the south, where it would often be convenient to move the blacksmith from place to place.

Pruning Vines.—I don't know much about the pruning, but I do know that the preparation of the ground, as recommended, is good, and that

soap suds are a good fertiliser for grape vines.

To Guard the Lungs While Threshing.—Worth its weight in gold. Look to it threshers, and other laborers in dust.

To Cure Scratches.—True. Look at that, horse-men.

Mr. Robinson's Tour.—No. 15.—I am glad to find this gentleman still keeps going, and furnishing your readers with a mass of interesting matter, picked up by the wayside. How true it is that one half the world don't know how the other half live. I am sure one half of your readers did not know that the practice of digging up land with the hoe, was so extensive in any part of America, as this writer informs them is the case in South Carolina. What possible reason can these people have for discarding the plow? Can you tell us, Mr. R.? Your description of the manner of planting and preparing rice, I read with interest; for during all my own travels, I have never been upon a rice plantation, though I have often seen them when sailing to Charleston and Savannah.

REVIEWER.

THE GREAT HORNED OWL.



HORNED OWL.—FIG. 49.

The great horned owl, (*Strix virginiana*), though much oftener heard than seen, is a native of nearly all parts of North America, occurring not only in the vicinity of the sea shore and the alluvial bottoms along the borders of rivers, but in the highest mountain districts, and even in latitude 68° north. Hence it may be regarded as an extremely hardy bird.

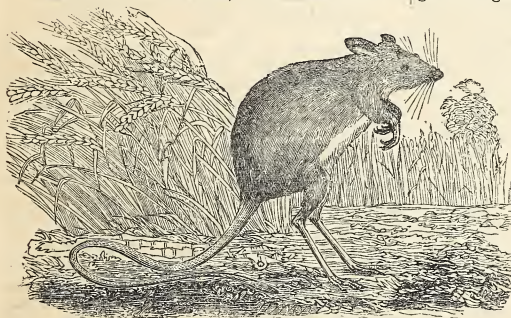
Like most, if not all other owls, his flight is chiefly by night, and as he flies, one may observe how exceedingly noiselessly he glides through the air; not a ruffle is to be heard, which arises from the very soft nature of his loose, unwebbed feathers, that offer but little resistance to the air. Audubon, in treating of this Nimrod of the night, describes him in his usual happy manner, nearly in the following words:—"Now and then he glides silently close over the earth, with incomparable velocity, and drops, as if shot dead, on his prey beneath. At other times, he suddenly alights on the top of a fence stake or a dead stump, shakes his feathers,

arranges them, and utters a shriek so horrid that the woods around echo to its dismal sound. Now, it seems as if you heard the barking of a cur; again, the notes are so rough and mingled together, that they might be mistaken for the last gurglings of a murdered man, striving in vain to call for assistance; at another time, when not more than fifty yards distant, he utters his more usual 'Hoo! Hoo! Hoo-e!' in so peculiar an undertone, that a person unacquainted with the notes of this species might easily conceive them to be produced by an owl more than a mile distant."

The food of the great horned owl, according to the authority quoted above, consists principally of half-grown wild turkeys, pheasants, domestic poultry of all kinds, together with several species of ducks, young hares, opossums, field or deer mice, and squirrels; and whenever chance throws a dead fish in his way, it is seized upon, and with equal avidity is devoured. Notwithstanding his encroachments upon the poultry yard, this bird destroys an immense number of vermin, such as squirrels, mice, insects, worms, and any other animals he can master, and probably, on the whole, he does about as much good as harm.

When the sun shines brightly, the great horned owl is nearly blind, and may readily be approached and killed; but if the weather be cloudy, he is always on the alert, and at the least noise, rises on the wing and is soon out of reach.

THE AMERICAN JERBOA, OR DEER MOUSE.



AMERICAN JERBOA OR DEER MOUSE.—FIG. 50.

The American jerboa, (*Meriones americanus*), although, from its nocturnal habits, rarely seen, is not uncommon throughout the northern parts of the United States, and in the British possessions, as far as latitude 62° north. This curious little quadruped was called by the Mohegan Indians, *wah-peh-sous*, or the "animal jumping like a deer," from the remarkable property it possesses of jumping 10 or 12 feet to each leap, which circumstance has also occasioned it to be called the "jumping mouse."

This beautiful and agile little creature is of a bright fawn color above, and pure white beneath. Its hind legs, as will be seen by the

adjoining cut, are much longer than the fore ones, and it usually moves by long leaps, similar to the kangaroo. Its tail is very long, which also aids it in its leaps. Its fore legs, though usually extended when erect, it rests upon the ground, when not disturbed. It forms its nest under heaps of stones, the loose foundations of old stone walls, or piles of fence rails, and occasionally, but not often, in stacks of grain. It is believed to become torpid during the winter, as individuals have been dug up in an apparently lifeless state, from about eight inches below the surface, which have been revived by exposure to warmth.

These mice feed chiefly on the roots of grass, grain, and seeds of various kinds; yet their injury to man is comparatively small. They evince a timid but gentle disposition, and are never seen in clear daylight unless disturbed, usually coming out between sunset and dark, after which they are exceedingly active, chirping like sparrows during the rest of the night, and often become the prey of the great horned owl.

PLANTING INDIAN CORN.

As the corn-planting season is coming on, I wish to call the attention of the cultivators of this most valuable grain, to a cure for the cut worm, crow and blackbird depredators.

Let the corn be soaked 12 hours in a warm, not hot, strong solution of Glauber salts; then rolled in plaster of Paris, and planted in damp weather, not in drouth, and the seed will, in a great degree, be free from the attacks of the worm, and I believe, wholly so from that of birds. The salts and plaster will, at the same time, act as powerful fertilisers, and bring forward the corn many days sooner, than when planted dry; but it does not answer well to sow or plant any soaked grain in a dry time.

I have come to the conclusion, that the best manure for corn, is wood ashes and lime from the stone, in which magnesia forms a component part, as much of the lime stone is of this kind in Pennsylvania, and this state.

R. L. C.

Paterson, N.J.

TRIMMING THE EARS OF A HORSE.—A correspondent asks if it is best to permit this. Certainly not. The hair is placed there by nature, to protect the orifice and drum of the ear from insects, floating matter, and sudden changes of the weather; it should therefore be left untouched. Some persons are in the habit of singing the hair in the ears, with a candle, or hot iron. This is barbarous and cruel, for it cannot be done without burning the skin. If people will persist in removing the hair, let them cut it out with sharp scissors. This inflicts no pain. The hair on the legs of horses should be left to grow during winter, as a protection against the scratches.

TRIAL OF PLOWS,

To take place at Albany, the second week in June, commencing on Tuesday the 4th, and to continue as long as may be necessary to ensure a fair trial of every implement entered.

JUDGES.

Anthony Van Bergen, Coxsackie; John Delafield, Oaklands; J. Stanton Gould, Hudson; Sanford Howard, Albany; B. B. Kirtland, Greenbush.

PREMIUMS.

Best sod plow for stiff soils, furrow not less than 7 inches in depth, nor over 10 inches in width, Diploma and....	\$15
Second best do	10
Best sod plow for light soils, furrows not less than 6 inches deep and 12 inches wide, Diploma and.....	15
Second best do	10
Best plow for fallows, or old land, Diploma and.....	10
Second do	8
Best subsoil plow, Diploma and	8
Best sidehill plow, Diploma and	8

Competitors must become members and enter their names and plows at the rooms of the society, by the 15th of May, with B. P. Johnson, Secretary; and the plows to which premiums are adjudged, to be deposited in the rooms of the society for exhibition, if plows of the same pattern are not already there.

The committee will meet at the society's rooms on Monday, 3d of June, to make arrangements for the trial. Trial to continue until the committee and competitors are fully satisfied, so that the awards may with confidence be relied upon, from the thorough trial made, leading to practical and satisfactory results.

N. B.—A general competition is invited under this head, as the trials will be conducted and the decisions made without regard to any former trials or awards, and will be open to competitors from any part of the world.

RULES REGULATING THE TRIAL.

In deciding the general question—What are the best plows? the committee will be governed by the following principles:—1st, the character of the work performed; 2d, the power required in draft; 3d, quality of materials, durability and cost of the implements.

For *stiff soil*, excellence of work shall consist, first, in leaving the furrow slice light and friable; second, in so disposing the sod and all vegetable matter as to insure its ready decomposition.

For *sandy soil*, or that which is already too light, the points in regard to work will be, first, thoroughly burying the vegetable matter; and second, leaving the ground generally level.

For *fallows*, or old land, the principle in reference to the quality of work will be, the thorough pulverisation and friability of the soil.

In determining the power required in draft, the most perfect implement will be used, and the trial will be conducted in the most careful and thorough manner.

The same implement for testing draft, and

the same team, will be used for all plows in the same class.

The plows may be held by the competitors or persons appointed by them, as may be preferred.

The Executive Committee of the New-York State Agricultural Society, realising the importance of perfecting the plow, the most important implement of husbandry, and desirous of affording every possible facility for a thorough trial, have appointed judges competent to do justice to the competitors, and have selected the second week in June, in this city, as the time for the trial of plows to be made. The only object of the Executive Committee is, to ascertain, if practicable, the best plows for *stiff soils*, for *sandy soils*, for *fallows*, or *old land*; *best subsoil plow*; *best sidehill plow*. The principles upon which the trial will be made are annexed; and time sufficient will be given, so that every competitor shall be satisfied with the fullness and fairness of the trial. It is hoped, that great good will result from a trial of this description; and it is expected, that competitors will be present from all our best manufacturing establishments, and that the awards of the judges will be such as to satisfy our farmers, as well as the manufacturers of plows, as to the character and value of the implements which shall be declared entitled to the premiums of the society. The competition is open to all; and we would most cordially invite you to be present on the occasion and exhibit your implements; and you are desired to give early notice by mail to the subscriber, should you conclude to be present. B. P. JOHNSON, Albany, April 6th, 1850. Cor. Sec'y.

WEIGHT OF AN ACRE OF SWEET POTATOES.—John F. Townsend, Esq., of Edisto Island, informs us that he weighed a crop of the "sweet yam," which gave 12,742 pounds per acre. A crop of "yellow yams" gave 21,344 pounds.

IMPROVEMENT IN APPLE ORCHARDS.

CAN you, through the medium of your paper, tell me how apple trees can be made to bear yearly a good crop? It was my impression previous to reading your paper that some apple trees bear only once in two years. But I suppose that the majority of fruit trees will yield a crop, under proper culture, yearly. I have some growing in turf ground, which six or eight years ago produced good fruit, but now, even when they do bear, much of it falls off prematurely. The soil in which they are situated is of a very rich black. A SUBSCRIBER.

Southampton, L. I., April, 1850.

In answer to the above, we would inform our correspondent that Mr. R. L. Pell, of Pelham, Ulster county, New York, has succeeded in making his Newton pippin trees bear every year by forking in around the roots a liberal compost of charcoal, bonedust, common salt, soot, wood ashes, and oyster-shell lime. To this may be added brick dust, burnt clay, leaf mould, or green-sand marl. By keeping the trees properly cleaned and pruned, they cannot fail to bear.

Ladies' Department.

PRESERVING BUTTER WITHOUT SALT.

THE following is the mode of preserving butter perfectly sweet, or, at least, perfectly fit for use, through the whole season, in the valleys of Switzerland, without any admixture of salt. A narrow deal, (pine,) board not more than four or five inches wide, is fixed horizontally in an open place in the dairy; wooden pins, from two to three feet in length, are fixed in an upright position into this, their whole length projecting above its surface. As the butter is made, it is placed daily around these pins, (one at a time,) beginning at the lower end, and in a mass not exceeding, at first, the width of the board. Every day, as more butter is made, it is added to the previous portion around the pin, the diameter of the growing mass, being gradually enlarged upwards, until the upper surface overhangs the base to a considerable extent, like an inverted beehive. When one pin is filled, another is proceeded with in like manner, and so on.

The exposed surface of these masses gets soon covered with a sort of hard film, which effectually excludes the access of the air; and this circumstance, with two others, namely, the complete expression of milk from the butter, and the unobstructed circulation of cool mountain air through the dairy, will go far to explain how butter so treated, can remain so long without becoming spoiled.

ELDERBERRY PIES.

It may not be generally known, that the fruit of the common black-berried elder, (*Sambucus canadensis*), affords a most delicious and wholesome material for pies. When rightly prepared, it would not be known from those made from the whortleberry, and many would prefer them to the raspberry, and the black-berry. A table-spoonful of vinegar should be added to each pie, which will neutralise the peculiar taste, and impart a pleasant acid flavor. No other precaution need be taken, and no difference is observed in preparing them for use.

The red-berried elder is poisonous, but cannot be mistaken for the other, because it ripens its fruit long before the black elder comes to maturity. When this very abundant berry is better known, it will be more highly prized, and doubtless would improve in quality under judicious cultivation.

H.

Somerville, St. Lawrence Co., N. Y.

IRISH WAY OF BOILING POTATOES.—In Ireland, where this root has been for so long a period the chief nourishment of the people, and where it takes the place of bread and other more substantial food, it is cooked so that it may have, as they call it, a "bone" in it; that is, that the middle of it should not be quite cooked. They are done thus:—Put a gallon of water with two ounces of salt in a large iron pot, boil for about ten minutes, or until the skin is loose, pour the water out of the pot, put a dry cloth on the top of the potatoes, and place it on the side of the fire, without water, for about twenty

minutes, and serve. In Ireland, turf is the principal article of fuel, which is burnt on a flat hearth; a little of it is generally scraped up round the pot, so as to keep up a gradual heat. By this plan, the potato is both boiled and baked. Even in those families where such a common act of civilised life as cooking ought to have made some progress, the only improvement they have upon this plan is, that they leave potatoes in the dry pot longer, by which they lose the "bone." They are also served up with their skins, (jackets,) on, and a small plate is placed by the side of each guest.

NEW MODE OF MAKING COFFEE.

CHOOSE the coffee of a very nice brown color, but not black (which would denote that it was burnt, and impart a bitter flavor); grind it at home, if possible, as you may then depend upon the quality; if ground in any quantity, keep it in a jar hermetically sealed. To make a pint, put two ounces into a stewpan, or small iron or tin saucepan, which set dry upon a moderate fire, stirring the coffee round with a wooden spoon continually, until it is quite hot through, but not in the least burnt. Should the fire be very fierce, warm it by degrees, taking it off every now and then, until hot, (which would not be more than two minutes,) when pour over it a pint of boiling water, cover close, and let it stand by the side of the fire, (but not boil,) for five minutes, when strain it through a cloth, or a piece of thick gauze; rinse out the stewpan, pour the coffee, (which will be quite clear,) back into it, place it upon the fire, and, when nearly boiling, serve with hot milk, if for breakfast, but with a drop of cold milk or cream, if for dinner.

The foregoing proportions would make coffee good enough for any person; but more or less coffee could be used if required. The cloth through which it is passed should be immediately washed and put by for the next occasion. A hundred cups of coffee could be made as here directed, in half an hour, by procuring a pan sufficiently large, and using the proper proportions of coffee and water, passing it afterwards through a large cloth or jelly bag.—*Soyer's Modern Housewife*.

COFFEE, FRENCH FASHION.—To a pint of coffee, made as directed above, add a pint of boiling milk; warm both together until nearly boiling, and serve the usual way.

TO MAKE COLD CREAM.—Warm gently together four ounces of oil of almonds, and one ounce of white wax, gradually adding four ounces of rose water. This will make good cold cream, whereas, that sold in the shops, is usually nothing more than lard beat up with rose water.

TO MAKE BATTER FRITTERS.—Take half a pound of flour, one ounce of butter, (which melt,) the whites of three eggs, well beaten, half a glass of beer, and enough water to make a thick batter.

Foreign Agricultural News.

By the steamer America, we are in receipt of our foreign journals to 6th of April.

MARKETS.—*Ashes* same as per our last. *Cotton*, an advance of $\frac{1}{2}$ d. per lb., with large sales. *Grain and Flour* in consequence of late unpromising weather, at a trifling advance. *Provisions*, dull, with a moderate demand. *Lard*, lower.

To Kill Ants.—Scald them with boiling water, or pour spirits of turpentine into their runs.—*Gardeners' Chronicle.*

Remedy for Mildew.—Apply flour of sulphur to the plants the moment the mildew appears.—*Ibid.*

Paint for Iron Work.—Take one part of Stockholm tar, and two parts of gas tar, lay it on while quite hot, with a brush, spreading it as thinly as possible.—*Ibid.*

Death of Dr. Koch.—Hooker's Journal of Botany announces the death of Professor Koch, of Erlangen, the distinguished author of the "Synopsis Floræ Germanicæ et Helveticæ," and of many other useful and talented botanical disquisitions. His knowledge of European plants was surpassed by few if any botanists of the day.

To Prevent Rats Undermining Buildings.—Rats cannot burrow through shingle (beach pebbles, nor small stone chips). To secure the foundations of any building against them, it is only necessary to lay the foundation in a bed of shingle, or rough gravel, from six to ten inches thick.—*English Paper.*

Importation of Sugar Cane into England.—A short time since an importation of sugar cane took place from Madeira. Another importation of the kind has lately taken place from Madeira, and in addition to this, an arrival of some packages of sugar cane has taken place at Liverpool from Havana.

Fishing for Rats.—A new branch of industry has sprung up in Newcastle. Juvenile disciples of Isaac Walton—the shade of the old angler frowns upon us while we write—may be seen in the streets, patiently reposing by the side of a grate, with a line and baited hook in the sewer, to catch rats. Their prey are sold to the jackals of the rat hunters, men who keep hundreds of rats in store, and sell them to sportsmen.—*Gateshead Observer.*

The Potato Restored in Ireland.—"Everybody is amazed," says the Clare Journal, "at the immense quantities of potatoes which have been for some time past pouring into the Ennis market. We have, also, had occasion to report an equally astonishing supply in the markets of Kilrush, Miltown, and Ennistymon; and, indeed, in all the market towns throughout this part of the country, the same unexpected sight is to be witnessed. Other agricultural produce is also freely brought in." It is admitted, on all hands, that potatoes are not only abundant, but excellent in quality; and they are sold at comparatively moderate prices.

Sale of Louis-Philippe's Stud.—Twenty race horses, the private property of his Majesty Louis-Philippe, forming the royal stud at Meudon, were sold by auction, at the park of Mousseaux, in Paris, a short time since. The sale was well attended. The highest price obtained was 3,220 francs, for an English chestnut mare, 11 years old. A yearling colt, bred at Meudon, was purchased for the President of the Republic, at the price of 1,525 francs. A two-year-old bay filly was likewise purchased for the President of the Republic at 1,870 francs. The sale produced 25,000 francs.

The Potato Mania in Ireland.—A correspondent of the Times writes to that paper as follows:—"I learn on the authority of a gentleman of the highest commercial standing in cork, that no mere newspaper report

can convey even a remote idea of the potato mania which has seized all classes in that extensive district. Grass lands, parks, demesnes, every available nook, have been cut up for the reception of seed. The whole country promises to be one monster potato field. The cultivation of wheat has been almost totally neglected, as there is no prospect of that crop ever again proving remunerative, and the only cereals that have been sown are barley and oats, and these to a very limited extent. Supposing the potatoes to escape disease, and the yield to be an average one of former years, he calculates that, from their abundance, they can be readily purchased for a penny a stone. There is, it is said, 'method in madness,' and such, it seems, is the case in the present instance, as the experiment now in progress is made with a view of preparing the land for a succession of other green crops in the year following."

Great Sale of Shorthorn Cattle.—The celebrated herd of the late Thomas Bates, of Kirkleavington, Yorkshire, consisting of 70 head, is to be sold on the 9th inst. His tenants, J. R. & T. Bell, will also offer 40 head on the same day. Several American gentlemen will be present at this great sale, and purchase, if they find anything there at fair prices, worthy of transportation across the Atlantic. But, from what we hear of the late breeding of this stock, anything out of the Duchess or Wildeyes tribes would be of little value as a fresh cross on our own fine native herds of shorthorns.

Variation in the Composition of Peruvian Guano.—By the examination of more than thirty specimens of Peruvian guano, it has been ascertained, by Professor Way, the consulting chemist to the Royal Agricultural Society of England, that the per centage of ammonia and phosphate of lime, the most important ingredients were confined within the following narrow limits:—

	Lowest	Highest	Mean
Water,	8.88	22.68	13.09
Organic matter and salts of ammonia,	37.78	58.82	52.61
Sand,	1.17	2.95	1.54
Earthy phosphates,	19.46	34.45	24.12
Ammonia yielded by 100 parts,	15.98	18.94	17.41

Experiments in Cattle Feeding.—An account of an experiment in feeding cattle, by James Laidlaw, of Frampton-on-Severn, as detailed in the London Agricultural Gazette, is as follows:—

1. Lot 1st, 13 three-year-old heifers, mixed breed. Lot 2d, 7 three-year-old bullocks, mixed breed. Lot 3d, 9 three-year-old heifers, Hereford breed.

2. Lot 1st, soiled in yards during summer; put up to fatten 6th October. Lot 2d, ditto, ditto. Lot 3d, put into open yards as soon as bought.

3. Lot 1st, tied up in stalls 10½ ft. long by 4½ ft. wide. Lot 2d, ditto. Lot 3d, in open yard, with shed to lie under.

4. Lot 1st, each beast consumed daily 70 lbs.; raw Sweeds, 2½ lbs.; linseed meal, soaked in cold water, 2 lbs.; barley meal, and 8 lbs. straw chaff. Lot 2d, each beast consumed daily, 90 lbs.; raw Sweeds, 2½ lbs.; linseed meal, soaked as above, 2 lbs.; barley meal, and 8 lbs. straw chaff. Lot 3, put in the yard to freshen up for stalls, receiving a small quantity of turnips, with as much straw as the can consume, but no account taken of the quantity.

5. Little wheaten straw, no account taken of the quantity.

6. Lot 1st, estimated increase in weight by Christmas, 10 imperial stones (140 lbs.); the value depends on the market price when sold. Lot 2d, increased in size more than the first, but not so forward. Lot 3d, going on very well.

Editors' Table.

PRINCESS TRIBE OF SHORTHORNS.—For an advertisement of the produce of a young bull of this superior tribe of shorthorn cattle, see advertisement page, 167.

THE TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY has been received, and will receive further notice in our next number.

LITERARY THIEVING.—The Southern Planter quotes a recent article of ours, on draining meadows with the subsoil plow, crediting to the Lancaster Pa. Gazette. The latter, we believe, is one of the papers which habitually steal from us, and hence the result of having other peoples' labors credited it.

FIRE-PROOF CALICO.—A fire-proof calico is now made for children by immersion in phosphate of magnesia. It will ignite by contact with flame, but the fire will not spread. It goes out immediately.

LIVE STOCK INSURANCE.—We would call attention to the advertisement in this paper, of the American Live-Stock Insurance Company, at Vincennes, Indiana. It is a new thing in this country, but nevertheless, an important consideration to the farmer. Why should he not insure his stock of cattle, as well as a merchant his stock of goods? Insurance companies of this kind have been in operation for some time in Europe, and have been productive of much good. One ought to be incorporated in this state. Will the farmers think of it? The west, with great good sense and judgment, have now given us the lead in this matter.

MR. MORRIS IN EUROPE.—Among the passengers in the steamer Europa, which left here for Liverpool on the 17th. ult., was Lewis G. Morris, Esq., of Mount Fordham, New York. His general object in going abroad, is to make himself acquainted with the improvements in agriculture in Europe, and more particularly to look over the fine stock of England, with a view of selecting for importation. He will return in September, and his next annual sale of stock will take place in October following. We wish Mr. Morris a pleasant and profitable trip abroad.

THE AMERICAN BIRD FANCIER, a little treatise on Cage and House Birds, has just been published by C. M. Saxton, 121 Fulton street, New York. See advertisement on page 167 of the current volume.

THE FARMERS' GUIDE TO SCIENTIFIC AND PRACTICAL AGRICULTURE, by Henry Stephens, Scotland, author of the Book of the Farm, and John P. Norton, Professor of scientific agriculture, Yale College, Connecticut. The character of this work is much like that of the Book of the Farm, with everything new in the way of agricultural science discovered since its first publication, and is adapted as much as possible to this country, by Professor Norton. Published by Leonard Scott & Co., of this city. It is a highly valuable work, and is issued in numbers of 64 pages each, handsomely embellished, with steel and other engravings. The price is 25 cents per number, or \$5 for the twenty-two, which will make two large octavo volumes of 1,400 pages. It is for sale by C. M. Saxton, 121 Fulton street, N. Y.

THE FARMER AND PLANTER.—This is a new publication just issued at Pendleton, South Carolina, edited and published by Messrs. George Seaborn, and J. J. Gilman. It is in quarto form, 16 pages monthly, price one dollar a year. It is handsomely got up, and filled with just such matter as is best calculated to improve the planters of the south. We hope they will patronize the work liberally. They little know how much it would increase their wealth and comfort, if they would put twenty thousand copies of this periodical in circulation, and see that the same were thoroughly perused, and its excellent precepts put into immediate practice.

SUCCESSFUL FARMING.—A worthy clergyman informed us recently, that he purchased seven acres of miserable, sandy land in the neighborhood of Saratoga, a few years since, which, by manuring and judicious cultivation, he brought up to such condition, that from three acres and a half only, he produced green fodder throughout the season, for three cows, one bull, one horse, and seven sheep; and cut all the hay consumed by them in the winter. The hay, however, was pieced out by the use of grain, roots, and straw, taken from the remaining half of the seven acres. When he sold the land, he received over \$100 dollars an acre, for what a few years previously, was bought for as many shillings.

We have kept a good lookout for successful farming, for the last few years, and have invariably found, that intelligence and a careful investigation of the experiments and best practises of others, furnished the ground work for the superiority of every one who has attained to eminence in agriculture. *So much for book farming.*

PROFITS OF DOGS.—Many of our friends and correspondents have frequently given us the profits of poultry, milch cows, sheep, oxen or mule labor over horses, &c.; but the first man is yet wanting, who has communicated essay, chapter, or paragraph on the profit of dogs. This is passing strange, as everybody keeps his dog, and many keep their packs. The whole country is overrun with them. Surely, then, somebody ought to know their value, and be able to report an account current of their profits. Let us hear from some one of our most observing correspondents, and especially such of them as live among the canine marauders of the sheep fold. We imagine the account will stand something thus:—

Towzer, in account current with my farm
from Jan. 1st, 1849, to Jan. 1st, 1850,

<i>Dr.</i>	
To killing my best imported Southdown ram, Billy,	\$50.00
Do. 3 choice wethers, \$4.50 each,	13.50
Do. 17 breeding ewes, \$3.25 "	55.25
Cost of lawsuit with neighbor Strict, for sheep killing,	27.00
Damages paid him on judgment rendered,	29.17
Attendance of myself and five laborers, as witnesses, 3 days each, at 8s. per day,	18.00
Worrying farmer Short's horse, and paid him for consequent lameness,	12.00
Original cost,	10.00
52 weeks' board, at 4s.,	26.00
	<hr/> \$240.92

<i>Cr.</i>	
By driving pigs out of the corn at sundry times, through a bad fence, which my hands neglected to repair,	\$2.00
Killing one polecat \$1.50, 3 squirrels, 75cts.,	2.25
Bringing in newspapers from gate 18 times,	0.03
Comfort and satisfaction in general from owning Towzer one year,	273.19
	<hr/> \$277.47

Balance in favor of Towzer, \$36.55
Thus by giving a pretty round credit for the *general satisfaction* derived from Towzer, we show an actual profit, during the current year, of \$36.55, or 305 per cent. on the original capital invested, which is a most liberal return for farm stock, and will probably induce many enterprising, scheming young men to follow in similar investments.

Review of the Market.

PRICES CURRENT IN NEW YORK, APRIL 20, 1850.

ASHES, Pot.,	100 lbs.	\$6.00	@	\$6.06
Pearl,	do.	5.62	"	5.69
BALE ROPE,	do.	3	"	11
BARK, Quercitron,	ton.	39.00	"	41.00
BEANS, White,	bushel.	75	"	1.25
BEEFWAX, American, Yellow,	"	20	"	96
BOLT ROPE,	"	10	"	11
BONES, Ground,	bushel.	45	"	55
BRISTLES, American,	"	25	"	65
BUTTER, Table,	"	15	"	25
Shipping,	"	9	"	15
CANDLES, Mould, Tallow,	"	10	"	13
Sperm,	"	25	"	47
Stearine,	"	25	"	30
CHEESE,	"	95	"	10
COAL, Anthracite,	2,000 lbs.	5.00	"	6.00
CORDAGE, American,	lb.	10	"	13
COTTON,	"	11	"	15
COTTON BAGGING, Am. hemp,	yard.	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	"	8	"	09
FLOUR, Ordinary,	bbl.	4.00	"	5.25
Fancy,	"	5.50	"	6.50
Richmond City Mills,	"	6.50	"	6.75
Buckwheat,	"	"	"	"
Rye,	"	2.75	"	3.00
GRAIN—Wheat, Western,	bushel.	95	"	1.33
" Red and Mixed,	"	91	"	1.15
Rye,	"	52	"	60
Corn, Northern,	"	58	"	63
" Southern,	"	55	"	61
Barley,	"	75	"	76
Oats,	"	38	"	45
GUANO, Peruvian,	2,000 lbs.	45.00	"	50.00
Patagonian,	do.	34.00	"	35.00
HAY, in Bales,	100 lbs.	48	"	60
HEMP, Russia, Clean,	ton.	215.00	"	220.00
American, Water-rotted,	"	160.00	"	200.00
" Dew-rotted,	"	140.00	"	175.00
HIDES, Dry Southern,	"	9	"	19
HOPS,	lb.	6	"	18
HORNS,	100.	2.00	"	10.00
LEAD, Pig,	100 lbs.	5.00	"	5.13
Pipes for Pumps, &c.,	lb.	5	"	07
MEAL, Corn,	bbl.	2.75	"	3.00
Corn,	hhd.	14.00	"	14.12
MOLASSES, New-Orleans,	gallon.	24	"	28
MUSTARD, American,	lb.	7	"	10
NAVAL STORES—Tar,	bbl.	1.50	"	1.75
Pitch,	"	1.25	"	1.75
Rosin,	"	1.00	"	1.30
Turpentine,	"	2.44	"	2.75
Spirits of Turpentine,	gallon.	32	"	34
OIL, Lard, American,	"	83	"	90
Castor,	"	2.00	"	2.25
Lard,	"	60	"	70
OIL CAKE,	100 lbs.	1.25	"	1.50
PEAS, Field,	bushel.	75	"	1.25
Black-Eyed,	"	1.75	"	2.00
PLASTER OF PARIS,	ton.	2.00	"	2.25
Ground, in barrels of 300 lbs.	"	1.12	"	1.35
PROVISIONS—Beef, Mess.,	bbl.	8.50	"	11.00
" Prime,	"	5.50	"	8.00
" Smoked,	lb.	6	"	12
" Rounds, in Pickle	"	4	"	6
Pork, Mess.,	bbl.	10.00	"	12.00
" Prime,	"	6.50	"	10.00
Lard,	lb.	6	"	7
Bacon Sides, Smoked,	"	3	"	4 1/2
" in Pickle,	"	3	"	4
Hams, Smoked,	"	5	"	9
" Pickled,	"	4	"	7
Shoulders, Smoked,	"	4	"	6
" Pickled,	"	3	"	5
RICE,	100 lbs.	2.25	"	3.00
SALT,	sack.	95	"	2.00
Common,	bushel.	20	"	35
SEEDS—Clover,	"	6	"	9
Timothy,	bushel.	2.50	"	3.50
Flax, Clean,	"	1.75	"	1.80
" Rough,	"	1.70	"	1.75
SODA, Ash, (80 per cent. soda),	lb.	3	"	—
Sulphate Soda, Ground,	"	1	"	—
SUGAR, New-Orleans,	"	4	"	6
SUMACH, American,	ton.	35.00	"	37.00
TALLOW,	lb.	7	"	8
TOBACCO,	"	23	"	11
WHISKEY, American,	gallon.	23	"	25
WOOLS, Saxony,	lb.	40	"	60
Merino,	"	35	"	40
Grade Merino,	"	30	"	35
Common,	"	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,350 Beeves, (1,000 southern, the remainder from this state and the east), 75 Cows and Calves, and 1,300 Sheep and Lambs.

Beef Cattle.—An abundant supply, sales varying from \$6 to \$3.25 per hundred. Demand fair but dull at the close. About 100 left over.

Cows and Calves.—The sales of these generally run from \$30 to \$28.50, and in some cases as high as \$42.50, 20 left over.

Sheep and Lambs.—The prices of these continue firm. The sales varied from \$1.50 to \$3.25. A few sold as high as \$6. All sold. April 15.

REMARKS.—Business has been very brisk the past month, but very little change in prices. Cotton, Hay, and Barley have advanced somewhat, while Grass Seeds have fallen as usual when the season is nearly over for sales. In other things, we have little change to notice.

THE WEATHER up to the 20th, at the time we are writing, has been colder, on an average, than any April for several years past. Everything is consequently retarded. But late planting will probably be fortunate in one respect; it guards against destruction by late frosts. There is great promise of an abundant fruit year.

TO CORRESPONDENTS.—Communications have been received from Valentine Hallock, H. F. Colesworthy, Newton Baggs, T. B. Miner, E. A. Holcomb, M. W. Phillips, Linus Cone, J. G. C. Stephen R. Gray.

GLASS FOR CONSERVATORIES and Horticultural Purposes, &c.—Plain Sheet and Rough Glass for Conservatories and Greenhouses, of all sizes and thickness; Propagating Glasses, Fish Globes, Lactometers, and Glass Milk Pans; also, Colored and Enamelled Glass for Windows and other uses, furnished at order, by D. J. BROWNE, mh At the Agricultural Warehouse of A. B. Allen & Co., 189 Water street, N. Y.

BONE MILL.—For sale, one Bone Mill, for horse power, complete, capable of grinding from 150 to 200 bushels per day. Also, a Steam-Power Mill, capable of grinding from 800 to 1,200 bushels per day. Engine of 16-Horse Power, with two boilers, of 25-Horse Power, all complete. Apply by letter, or otherwise, to ALEXANDER HORNBY, my lt 26th St., 9th Avenue, New York.

FRUIT AND ORNAMENTAL TREES FOR SALE.—30,000 Peach Trees of the choicest kinds from \$5 to \$6 per hundred. Also, 30,000 Apple Trees of all the standard varieties, of extra size, from 7 to 10 feet high, at \$12.50 per hundred, among which are a large quantity of the celebrated Monmouth Pippin, Baldwin, Esopus Spitzenberg, Newtown Pippin, Rhode-Island Greening, &c., &c. Catalogues, with prices annexed, may be obtained by applying by letter, to the proprietor. ISAAC PULLEN, Hightstown, N. J.

apr 21*

COMMERCIAL GARDEN AND NURSERY PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboreums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision. This care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot, near Boston, which, by the entire success of their trees transplanted thither, has thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mh

N. B. S. B. Parsons will be found every Saturday during the month of April at the Agricultural Warehouse of A. B. Allen & Co., 189 Water st. N. Y., for the transaction of business.

CHARLESTON HOTEL.—This extensive house is now prepared to offer as good accommodations to gentlemen and ladies as any other in the city. D. MIXER, apr 31*

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The copious list of geographical names is an important feature of this work for schools, and is itself worth the cost of the whole work.

School Committee of Framingham.

Resolved, unanimously, that Webster's Quarto Dictionary be the Standard in the New-York State Normal School.

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ance Company, Vincennes, Indiana.

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Exeter was selected for Mr. Sheafe, by that excellent judge of stock, Mr. A. Stevens, of New York. He was considered one of the very best bulls in England. Quite a high price was paid for him. It is believed that his superior has never before been imported into this country. He is a beautiful yellow-red—which is a bright-red, with a fine golden or saffron under tinge, arising from a rich yellow skin, and is the only bull of this peculiarly fine red ever imported. A few calves of his get will be for sale this season. Their dams are Herd-Book Shorthorns, very fine in their points, and great milkers. Those who desire to improve their present stock by taking a superior fresh cross, will please to apply to

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This article, made from night soil, into a light, dry, and inodor-
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acres.—The undersigned is engaged in improving and
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To capitalists, or persons desirous to purchase a large tract of
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Be particular, also, as to the name, number, and street, which should be

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ALLEN'S IMPROVED PORTABLE RAILROAD HORSE POWER, THRESHER, AND SEPARATOR.—The advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply connected, not liable to get out of order, and move with little friction.

The *Overshot Threshers* consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a separator high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,	\$80
“ “ Thresher,	\$28
“ Separator and fixtures.	\$7
“ Bands for driving, etc.	\$5
“ Wood-sawing machine, complete, and in running order,	\$35

Price of Double Power,	\$100
“ with Thresher, Separator, &c.,	\$145 to \$150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

A BRIEF ACCOUNT OF THE UNCULTIVATED LANDS ON LONG ISLAND IN 1850.

In answer to numerous inquiries relative to the uncultivated lands on Long Island, and for information concerning them, the attention of the public is directed to the following brief account of their position, natural capabilities, and the facilities they offer the city mechanic, the market gardener, the fruit-grower, the dairyman, and all others who are in quest of a new home.

These lands are mostly in the interior or middle parts of the Island, and probably were at first neglected more from their *remote* situation, than anything else, being *inland*, as it is commonly expressed by the inhabitants.

In fact, there does not appear to be any other cause for the *origin* of the discredit in which this portion of the island has been long held, than that it was a few miles from the shores, and therefore not so desirable to the early settlers as the lands bordering on the beautiful bays and harbors that surround them.

Indeed, all the first settlements were made near the shores; for the waters afford great privileges, added to the pleasures and comforts of life, as they abounded with fish and wild fowls in great variety; and which were a means of subsistence to the inhabitants then, as now. There is no other way to account for the strange and singular neglect of the middle regions of this Island. The eastern parts of it are highly cultivated, with a soil by nature no better than that now under consideration; the northern and southern shores, nearly its whole length, have been settled and cultivated, as long as the western part of it; more than 200 years.

By reference to the old maps of Long Island, it will be seen that the settlements are as above described, and that the middle portion, for about forty miles long, and from six to eight miles broad, are entirely a blank. The Long-Island Railroad passes through nearly the centre, from east to west, of this unimproved tract, which commences at Farmingdale, distant thirty-one miles from the city, and extends to Riverhead, about forty miles.

The "Great Hempstead Plains" are nearer the city, being only about sixteen miles distant. There are in this tract about 17,000 acres of the most beautiful land, capable, in every respect, of the highest cultivation, and belongs to the town of Hempstead, in common. It cannot be sold without a popular vote of the inhabitants, a majority of whom have always opposed the sale of it; and it is probably for this reason, alone, that it is at present unimproved; for the soil is equal to any other part of the Island of like extent. It is, in truth, a prairie, and the only one east of the Alleghanies, and was, in the early history of the country, considered as a great curiosity, and as such, was visited by great numbers of people from the different colonies, and by the early European travellers, but was not then regarded as barren.

It was more than 100 years ago that Long Island obtained its distinctive appellation of the "Garden of America," and was then considered as highly fertile and productive, and described as such by all those who wrote anything about it previous to the Revolutionary War. Had the middle parts of the Island, along the borders of the railroad, been cultivated as the other parts, the lands there would now present the same appearance that those under cultivation now do.

Long Island was, in the early history of the country, regarded as highly fertile, as will appear by the following extract, from the Annual Report of the American Institute, to the Legislature of the state of New York, for the year 1847, from page 688. "A work of 1670, proves this a rare and curious book, Denton's History; or a Brief Description of New York, formerly called New Netherlands (this has been called one of the gems of American History, being the first printed description, in the English language of what is now the great, wealthy, and populous State of New York). Long Island is not spoken of in this, nor any subsequent work for a great many years, as being of poor soil *

* * it is everywhere spoken of as being exceedingly fruitful, with a pleasant and healthful climate, and beautiful streams and bays, abounding in all kinds of fish and water fowl." The Island was then, (1640,) settled on the eastern parts of the towns of East and South Hampton, and all the north shore, including the towns of Huntington and Smithtown, and the settlements in the north part of Brookhaven, so that the whole Island was at the time of this author well known; for he says, "The Island is "most of it, very good soyle, and very natural "for all sorts of English grain, which they sowe, "and have very good increase of, besides all "other fruits and herbs, common in England.

"The fruits natural to the Island, are mulberries, posimons, grapes, huckleberries, cranberries, great and small plums of several sorts, and raspberries; of which last is such abundance, in June, that the fields are died red; "which the country people perceiving, instantly "arm themselves with bottles of wine, cream "and sugar, and instead of a coat of male, every "one takes a female upon his horse, behind him, "and so rushing violently into the fields and "never leave till they have disrobed them of "their red colours, and turned them into the old "habit. The greatest part of the Island is very "full of timber, as oaks, white and red, walnut "trees, chestnut trees, which yield stores of mast "for swine; also, maples, cedars, saxifrage, "beach, birch, holly, hazel, with many sorts "more."

Then follows the enumeration of a variety of herbs and flowers which the country naturally "affords, "Yea, in May, you shall see the woods "and fields so curiously bedecked with roses

"and an innumerable multitude of delightful flowers, not only pleasing to the eye, but to the smell, that you may behold nature con-tending with Art, and striving to equal, if not excel many gardens in England." Such is the description given of this Island by all the early writers.

The Hon. Gabriel Furman, in a very able and interesting address, delivered at Jamaica, October 10th, 1844, before the Queen's-County Agricultural Society, says the first printed history of New Netherlands, published by Vanderdonck, at Antwerp, in 1650, gives a similar description of the fertility of Long Island.

The streams of the Island are numerous and of remarkable clearness, and purity, the old author above, (Denton,) says, of the "Rivers and Riverets which empty themselves into the Sea; yea, you shall scarce travel a mile, but you shall meet with one of them whose Chrystal streams run so swift, that they purge themselves of such stinking mud and filth, which the standing, or low-paced streams of most brooks and rivers westward of this colony leave lying, and are by the Sun's exhalation dissipated, the air corrupted, and many fevers and other distempers occasioned, not incident to this Island."

All this part of the Island is covered with a rank and vigorous growth of vegetation, and has probably produced a crop of wood, pine and oak, fit for the New-York market, every 18 or 20 years, for the last 100 or 150 years, besides having been burnt over a great number of times during the above-named periods. From this fact alone, may be seen its productive power; for any land that will produce wood, and the various kinds of vegetation that this land produces, must be capable of cultivation to the highest degree; and there can be facts enough adduced to prove beyond a doubt that this is true of almost all that part of Long Island now uncultivated and wild, along the borders of the railroad. There never has been an attempt made to cultivate any portion of it that has failed; in every instance where it has been fairly tried, it has succeeded. There are now many farms and gardens, highly productive and fertile, that were a few years since reclaimed from the same kind of land.

It is the opinion of the best agriculturists of the state of New York, and other men of high intelligence and practical skill and knowledge of agriculture, who have examined these lands, that there is no reason why they cannot be cultivated by ordinary means, and rendered as productive and as valuable as any other lands on the Island.

Among those who have seen these lands, and expressed opinions favorable to their cultivation, is Judge Meigs, of the American Institute. He says that "Long Island contains all those materials, calcareous and others, necessary for high and profitable cultivation, and that these lands, for the various productions of the garden, field and orchard, are very highly adapted, and also for the vine, and silk mulberry."

Dr. Underhill, celebrated for his cultivation of

the grape, at Croton Point, has examined this portion of Long Island, and says, "there can be no doubt that all these lands can be rendered highly productive and fertile without and difficulty, and by the same means that will cultivate and enrich any other land." He further says, he is "willing to stake what reputation he has as an agriculturist that these lands are susceptible of most profitable cultivation for the vine, the peach, the apple, and other orchard fruits, and the usual productions of the garden and field."

Professor Renwick, of Columbia College says, those portions of the soil from Hempstead Plains, have been analysed in his laboratory, (in Columbia College,) and "were found to partake of all the constituents of a fertile soil, in large proportions, and only require the application of quicklime and other decomposing substances to render them fit for the process of cultivation" and says of the scrub-oak lands, "that it is a fact, that in many parts of the country those lands called 'oak barrens,' and neglected for a time, have been found to be the best wheat lands, and these lands of Long Island may prove of the same character."

Professor Mapes is also of opinion that these lands may be easily cultivated.

The late T. B. Wakeman, Esq. and General Chandler of the American Institute, have given opinions, after having examined these lands, favorable to their successful and profitable cultivation.

Charles Henry Hall, Esq., whose skill and judgment are undoubted, in all matters relating to agriculture, expresses his entire belief in the feasibility of rendering these lands eminently productive; that the climate and soil of Long Island are favorable to a high degree of perfection to all kinds of fruits and plants that grow or can be raised in this latitude.

A. B. Allen, Esq., editor of the American Agriculturist, says there is no doubt that these lands can be successfully cultivated, and Mr. Allen's opinion on the subject of clearing it of roots, or of breaking it up and rendering it fit for the plow and hoe, is deserving of very great consideration.

One great objection urged by the people of the Island against any attempt to clear and cultivate the part of it under consideration, is the great difficulty and expense in clearing the land of the growth of bushes, which, as commonly done by hand, by means of a large hoe, or mattock, and costs too much. Mr. Allen thinks that it can be broken up by the plow for about three or four dollars per acre, and he has had great experience in all matters pertaining to the clearing of new land. It is now found by experience that crops can be put in these lands by the harrow, and thus cleared at even less than by plowing.

Such, also, is the opinion of Mr. Thomas Bell, of Westchester county, a member of the Board of Agriculture of the American Institute, and who is among the best practical farmers in the state.

Evidence of this kind can be adduced to al-

most any extent, and there are no facts that can be brought against it, and all the opinions to the contrary are founded upon ignorance and prejudice.

Samuel A. Smith, Esq., of Smithtown, in an address before the Suffolk-County Agricultural Society, at Commack, in the fall of 1846, said of these lands, "that they had always considered them only fit for deer to roam over, and foxes to dig holes in, and they knew no other reason for such opinions than that their fathers had told them so"—that they never had made any attempts to cultivate these lands, and therefore did not know from any fact that they were unfit for cultivation.

The situation of these lands is extremely favorable, and even desirable. The Long-Island Railroad passes directly through the uncultivated parts of the Island—thereby affording easy and certain access during the whole year, having, in this respect, a great advantage over even those places on the coast or bays that are esteemed the most valuable—for, by the railroad, the market can be reached at all seasons and at all times, without reference to wind and tide, and unobstructed by ice, as the bays and harbors are for three months in a year.

The surface of this part of the Island is varied, or gently undulating, with a southern aspect, having a descent of from twelve to twenty feet to the mile, from the ridge of hills about one mile north of the railroad to the shores of the great South Bay, a distance of five or six miles.

The summit level of the railroad, at Hicksville, is 142 feet above tide water, and at Lake-Road Station, 48 miles from the South Ferry of New York, it is 90 feet—it will therefore be seen that the surface is not a "dead level—a great dreary plain," but sufficiently varied.

In passing through on the railroad, the appearance from the cars is altogether unfavorable, and the impression left on the mind, to an ordinary observer, is erroneous. The excavations for the road are, in most cases, so deep as to go below the upper stratum of the earth, or the proper covering of the Island, and into the sand and gravel, of which it is everywhere composed below the surface. Hence the appearance of sand and coarse gravel, that is seen on the borders of the railroad.

This fact can be easily ascertained by any one who doubts it, by digging through the surface stratum anywhere in the vicinity of the village of Jamaica, or in those finely cultivated fields along the railroad, either east or west of that place, a very few feet, say from one and a half to two and a half feet deep, will turn up the same kind of sand and gravel as seen along the road to the east of Hicksville and Farmingdale.

The whole prospect from the road after leaving the last above-mentioned place, is barren and desolate, and without a careful examination and knowledge of the facts herein stated, the conclusion would be that the land was in itself necessarily sterile and barren; for, in addition to the sandy and gravelly appearance, the absence of trees, and in much of the distance, a

stinted vegetation, or in some places none at all, on the immediate borders of the railroad, seem to confirm the opinion that it is as sandy and barren as it has ever been represented.

The explanation of this may be found, first in the fact that the uneven and irregular growth of wood or trees being of different heights or sizes, some very small and scattered, whilst others are larger, and which is in consequence of the time or period that has elapsed since the land was cut over. On some places the growth is one year old, on others two, five, seven, ten, &c. Besides having been cut over, it often happens that it is burnt over, which always has a tendency to kill the timber and wood, and destroy vegetation. Nearly all the great region of wood and wild land through which the railroad passes has been burnt over two or three times in five years. The first fire after the opening of the road was tremendous—terrific. At one time it lasted nearly two weeks, and seemed as though it would consume the whole Island. There was a great amount of combustible matter on the ground and in the woods, and the earth was exceedingly dry, and the effect of the fire was in the highest degree scathing—consuming almost every particle of vegetable matter on the surface of the earth. For miles in extent, nothing could be seen but the smooth and blackened surface, and the charred bodies of such trees as had escaped destruction. The fire happened in the month of April, and the land over which it had passed looked like a furnace that had suddenly been extinguished, as black and desolate as fire could make it.

Yet, as soon as the sun and showers of spring and summer came, the whole was again clothed with verdure—vegetation could be seen there, literally "bursting into life." It was truly astonishing to see with what vigor, power, and rapidity the leaves and plants, and flowers sprung forth to deck the earth again in green.

The writer of this well remembers with what interest he watched the returning signs of life in the vegetable kingdom there, and the great impression that its return so speedily, so luxuriantly and so powerfully made on his mind—how soon the restoring energies of nature were brought into action to repair the injury that had been done to the earth's surface.

There is on each side of the railroad, distant about twenty rods, and running parallel with it, what is termed a *fire road*. It is a cleared path, about twenty feet wide, which has been cleared of all the bushes and roots, by grubbing. The object of this "fire road," or path, is to prevent the fire from crossing over it, and passing into the woods, in case of the combustible materials along the road taking fire from the sparks from the engine. The space between the railroad and these fire roads is burnt over every spring and fall, with a view to kill and destroy all vegetation, and all vegetable matter on it, in order to prevent the recurrence of fires; and this fully accounts for the extreme barren appearance along the borders of the road.

The forest productions of this part of the Island are such as to convince the most skep-

tical that the soil is capable of yielding, when cultivated like other parts of the Island, in the same abundance. Immediately on the plains along the borders of the railroad, the trees are chiefly pine, with a thick and vigorous growth of underwood or bushes, such as scrub oak, whortleberry, vines, and grasses.

A little to the north, are found the chestnut, hickories, the varieties of the oak, as white, black, or yellow oak, black walnut and locusts—all of which exhibit the most vigorous and thrifty growth. Indeed, so rapidly do trees grow on this part of Long Island, that about eighteen years are considered sufficient to produce a crop of wood suitable to cut into cord wood for the New-York market, and there is no part of this state, (New York,) where timber will grow so fast as on Long Island. If the soil were barren and destitute of the supporters of vegetation this certainly would not be the case. It may be here remarked that the locust, now so abundant in many parts of the Island and so valuable as timber, is not a native, but was brought from Virginia, or from further south, by one of the Sands family, who settled near Sands' Point in about the year 1660. Mr. Sands was a sea-faring man, and traded between the West Indies, the southern colonies, and New York.

The whole region of the Island, now in waste and wild, might be very easily transformed into a beautiful forest of locust, hickory, or oak, to great advantage and profit compared with its present condition. This growth of forest trees is evidence that fruit trees can be successfully cultivated; and this opinion is sustained by the facts of the case; for whenever any attempts have been made, and proper care and attention bestowed, the most complete success has followed. The nurseries of Flushing have long been celebrated for their extensive and choice varieties of fruits. Peaches have been successfully raised on almost every part of Long Island, notwithstanding opinions have been advanced to the contrary. There were peaches of the largest size and finest flavor raised at Huntington, and exhibited at the Agricultural Fair at Commack, in the fall of 1846.

The Rev. J. Pillsbury, (now of Illinois,) cultivated successfully, a fine variety of fruit, including peaches, at Smithtown, Long Island, a few years since.

The peach orchard of Mr. John J. Stoothoff, at Jamaica, is such as to encourage others on the Island to cultivate this delicious fruit. For a particular account of this beautiful and flourishing peach orchard, and its productions, see the American Agriculturist, Feb. No., 1848. It will be sufficient to say, the year being the second of bearing, the orchard, containing about 2,500 trees, yielded about 2,637 baskets, worth \$2,600. The whole product from 27 acres of land was \$3,646. Peas and potatoes were cultivated between the rows of peach trees, and asparagus in some parts of the land. The soil upon which this orchard is planted is as much like the soil of these uncultivated lands, as it can be; it is impossible to discover any difference in viewing it, and it is not probable, that

a careful analysis would show any difference.

A few remarks on some of the privileges which the surrounding bays and waters afford, may not be uninteresting. They are not more than three, four or five miles distant from almost any part of these lands; and in these waters are found various kinds of fish and wild fowl for the sportsman. In the streams that flow from the Island, the waters are remarkable for their purity, and for being but little affected with drouth. These streams are full of trout of large size and fine flavor.

The Long-Island Railroad is to be the great means of changing this great wilderness from its present wild and waste condition to the habitation of man, to convert it into gardens and cultivated fields. The railroad now brings this part of the Island almost within the sound of the city bells, and affords constant and regular means of access at all seasons of the year, thereby enabling those who will now take up and settle these lands to have the benefits of the New-York and Brooklyn markets, with as much ease and economy as the inhabitants of the western part of Queen's county have formerly had. It is to the interest and welfare of the whole Island to have these lands settled and cultivated—it will add greatly to its wealth and population. To the railroad, it will be of essential service and benefit; it is a plain matter of fact, that every settlement made on the borders of the railroad must necessarily furnish a certain amount of business and travel for the road.

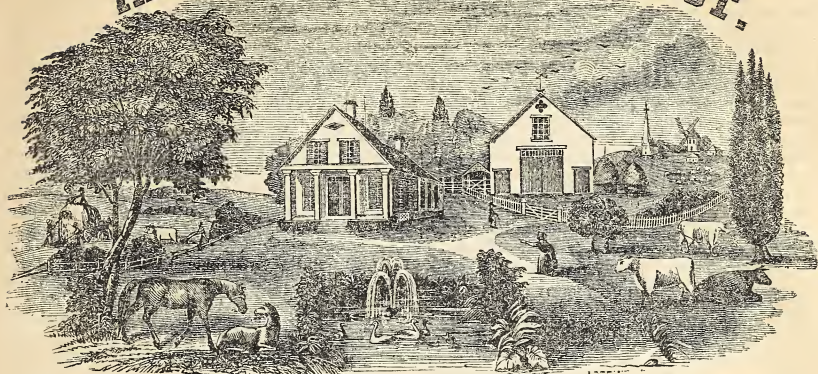
Lake Road, or Irvington, is one of the most beautiful sites of the inland parts of the Island. The soil there is of superior depth and quality, well adapted to the cultivation of all kinds of fruit, such as pears, peaches, grapes, and apples; and grain, as wheat, corn, rye, oats, buckwheat, as well as for every variety of vegetables raised on any part of the Island.

The whole glebe, or tract of land to the south of Ronkonkoma Lake, and to the east of Connetquot River, is the very best of all the uncultivated land on Long Island, and when cultivated, will be equal in quality and value to any land, and the situation is extremely desirable for settlement and residence. The wood and timber on this tract is oak, hickory, chestnut, locust, and pine; and it may be here stated that similar land a little to the north or south of this tract is valued at, and sold for \$50 to \$100 per acre, whilst this tract is offered at the very low price of \$10 per acre, a large part of the purchase money of which may remain at 6 per cent. interest for a term of years, if desired by the purchaser. The title is as good as can be to any land in the State of New York.

Lake-Road Station is the Half-Way House, between Brooklyn and Greenport, and the most central and important depot on the Long-Island Railroad, for freight and passengers, being the terminus of an evening and morning train of cars, for the accommodation of the morning and evening travel between Lake Road Depot and New York.

EDGAR F. PECK,
306, State st., Brooklyn, N. Y.

AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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MANURES—THE FOOD OF PLANTS.—No. 2.

THE known fact of the existence of the ten or eleven inorganic substances in good soils, that are always present in the ash of our cultivated crops, has led some prominent writer on agriculture, to advance the doctrine, that the application to the soil of suitable portions of the inorganic food of plants—potash, soda, &c., were the only manures required to produce large crops, and keep up the fertility of the soil, and that the *soil naturally contained*, with that derived from the atmosphere, and rain and snow water, a full supply of the organic constituents, or food of plants, viz: carbon, oxygen, hydrogen, and nitrogen, while others as confidently assert that the ammonia in farm manure, night soil, guano, &c., is the most important and valuable part of the manure. But I shall not here undertake to discuss these points, but would say to practical farmers, that there are so many well-authenticated facts of the beneficial action of saline and mineral manures, in increasing the produce of various farm crops, that no farmer can run a very great risk in employing large quantities of them in his compost heap, where they can be obtained at cheap rates, for I speak from experience.

There are thousands of farmers who reside near manufacturing and other villages, that could obtain refuse lime from bleacheries, paper mills, tanyards, old lime mortar, oyster shells, &c.; ashes, fresh and leached, from dwelling houses, soap works, potasheries, and other manufactories; bones from slaughterhouses, or from those who extract the oil from the feet, and horn piths from tanneries. These can be broken up, and dissolved in the oil of vitriol, and mixed in the compost heap, or they may be burned, and then easily broken and powdered, by the hammer. Bones supply to plants, phosphate of lime, one of the most needed and important substances required upon long cultivated lands and old pastures. Salt and brine can frequently be obtained *cheap*, from stores where salt pork, mackerel and other pickled fish are retailed. These will supply soda and chlorine. Gypsum furnishes sulphur and lime, and on the lines of most railroads can be had at a cheap rate. Iron, manganese, silicic acid, and alumina are generally found in sufficient quantities in most soils, and they do not require artificial application.

All the above-named substances should be mixed in compost, sometime before applying to the land, as there are various chemical changes effected in the compost heap, by the action of heat, moisture, and the agency of oxygen and other gases, which partially or wholly decompose these mineral substances, and prepare them to be more readily taken up by the plants.

But, important as are these inorganic substances, in the growth of plants, the great bulk of all plants and their seeds are composed of four gaseous, elementary substances, viz: carbon, (in the shape of carbonic acid gas,) oxygen, hydrogen, and nitrogen; and they are termed the *organic* constituents of plants. 98 per cent. of wheat, and 99½ per cent. of fir wood

is organic matter, which is dissipated and mingles with the air when subjected to the process of burning. The investigations of Liebig and other agricultural chemists have proved that "by far the greater part, if not the whole of the organic growth of plants, is derived from the atmosphere. The absorption of carbonic acid by the leaf, which is perpetually going on during daylight, invisible as the process is to the naked eye, is the main source of that deposit which forms the visible bulk of the plant itself. Burn it, and the atmosphere *takes back that which it gave*, leaving behind in the form of ash *that which it did not give*. In the act of combustion, the earth and the air reclaim and receive their own respectively. The organic part returns to the latter, the inorganic to the former." The above quotation may be correct, as far as it applies to the source from which forest trees and other natural or uncultivated plants obtain their organic elements. But by supplying our cultivated plants, (that seem to require a larger amount of nitrogen,) with these organic elements in a more condensed form than they are found concentrated in good manure, their favorable action in the increased growth of the plant is indisputable.

The organic part of the manure, while undergoing the process of decomposition in the soil, is resolved into its proximate or ultimate elements, assuming a gaseous state. These gases form new combinations, and are soluble in the water of the soil, which are taken into the circulation of the plant, by the roots. These are important in producing a luxuriant growth, especially, the compounds of ammonia, and the nitrates, as they readily supply nitrogen to the growing plant. The thousand-and-one recorded facts of the great value of the organic constituents of manures render it an important question to the farmer, how he can best save and treasure up for the use of his growing crops, the gaseous or organic portions of the manures usually made upon the farm, as well, also, as from what other sources he can obtain materials to increase his *nitrogenous* manures. In a future number, perhaps, I may attempt to discuss these points.

LEVI BARTLETT.

Warner, N. H., Feb., 1850.

BUTTERNUT SUGAR.

KNOWING that our common butternut tree yields, upon being wounded, a considerable amount of sap, I was led to make a trial of it to ascertain whether a sufficient amount of saccharine matter was afforded, to make it an object worthy of the farmer's notice. I accordingly tapped several trees that stood in an open field from each of which I procured about four gallons of sap, which, on being evaporated, yielded five ounces to the gallon, of grained sugar. This sugar had a peculiar honey-like flavor, and would make better molasses than any other kind with which I am acquainted. It was observed that as it evaporated, it had a tendency to form into flakes of transparent jelly, which would render it necessary to be strained and clarified while it was very dilute.

This sugar does not partake of the medicinal properties of the bark. It will be seen that the sap of the butternut yields about twice the amount of sugar that is afforded by the sugar maple, and the quality would be, by most persons considered superior. In making sweetmeats and preserves, it would be by most housewives preferred to any other sugar. The experiment was undertaken too late to ascertain the amount of sap which one tree will yield; but I think that it would be quite equal to that of the maple, of the same size, and growing in the same soil and situation.

The saccharine properties of the sap of this tree are common to the whole tribe of walnuts, although they must differ considerably in the relative amounts in each species. The experiment is well worth repeating, and the hint may prove valuable to those whose circumstances render it convenient. In many localities, these trees occur in sufficient abundance to furnish profitable employment during the early part of spring, before labor is required upon the farm.

F. B. H.

Somerville, St. Lawrence Co., N. Y.

AGRICULTURAL GEOLOGY.—No. 3.

A GRANITE soil and subsoil forwarded to me from Springfield, Massachusetts, yielded the following result—

	Soil.	Subsoil.
Silica,	86.66	92.00
Alumina and peroxide of iron,	0.61	0.80
Silicate of lime,	0.54	0.45
Magnesia,	0.06	0.10
Potash,	0.07	0.09
Sulphuric acid,	0.18	0.26
Common salt,	0.08	0.12
Phosphoric acid,	trace	
Vegetable matter,	4.00	
Moisture,	7.80	6.18
	100.00	100.00

If this composition be contrasted with that of the parent rock, it will be seen that the lime, magnesia, potash, and acids are much less in quantity, while the ratio of silica has increased. This loss is owing to the soil being drifted, in some instances, and in all, having been carried down, (before deposition,) by fresh water, which dissolved out all the soluble saline matters; still, however, there are always, in granitic soils, a remarkable quantity of alcalies, (potash and soda,) which render them so genial for many crops. All those plants which are potash seekers, will grow well in granite grounds, such as corn, potatoes, flax, peas, &c., while those which require lime, will not thrive unless it has been previously added. The deficiencies of granitic soils are generally lime and vegetable matter. However, it may startle some, it is nevertheless demonstrable, that all the granite hills have been in a hot and melted state, and that they were raised in a semifluid, or pasty state, and as they cooled, the minerals contained within them, crystallised and gave that glittering character which all crystalline or primary rocks possess. They have received the epithet *pri-*

mary, as being the first formed, and from which, by decay, all the other rocks have been produced.

Syenite is a granitic rock, resembling true granite, in having the minerals, quartz and feldspar, but the mica is replaced by hornblende, as hornblende does not decay so readily as mica. Syenite does not form a soil so readily, but when formed it is a richer soil and produces better crops. This may be perceived by viewing the composition of hornblende. It is a dark-green substance, occurring as a mineral and as a rock abundantly in this, and the New-England states. Besides the rock, we give the composition of hornblende soil from Smithfield, Rhode Island.

	Rock.	Soil.
Silica,	42.24	67.0
Lime,	12.24	trace.
Magnesia,	13.74	3.9
Protoxide of iron,	14.59	8.6
Protoxide of manganese,	0.37	
Alumina,	13.92	0.3
Soluble mineral matter,		12.8
Vegetable matter,		3.8
Water,		5.5

100 100

The difference between the rock and soil is the lesser quantity of lime in the soil, and the presence of minerals which dissolve in water; these are salts of potash, soda, and lime, which, in the large quantity present, make this a remarkably rich soil.

In the neighborhood of granitic rocks, and generally lying on each side of them, are found rocks containing almost the same mineral substances, but disposed differently. They are looked upon as formations derived from the wearing down of the granite by the action of water, which, sifting the materials as they wore them from the side of a hill, and carrying them through a large body of water, deposited them at great depths in the ocean, in a regular order; the heavier particles and minerals falling quickest, and occupying the undermost position, and the lighter materials on the top. Each deposit occurring during a certain time, would have a distinct character either in mineral composition, amount of deposit, or size of the particles deposited, from those of an earlier or a later period. A distinct bed, or stratum, would be formed, and rocks thus formed by deposit out of water, are called stratified or sedimentary rocks. But we have seen that they are deposited under water, at first. How came they to be now dry land? They have undergone a silent upheaval from below, acting gradually, but continually, rendering the water above shallower, until at last they emerge from the deep, covered on their surface with all the sand, clay, and rocks which they may have received while submerged. Such is the island of New York. At one period, it lay under water, as the Banks of Newfoundland now do, and has carried up on its back, the bed of sand with which it was coated below water. We find this sand sprinkled with shells of molluscos salt-water fish, both univalve and bivalve;

some of these exactly resembling those found in the ocean, at moderate depths; this similarity informs us of the origin of the sands of Manhattan and Long Islands.

Some of these water-deposited rocks, especially those of the earliest date, have been, by close proximity to melted rocks, so altered as to become, in a degree, crystalline, at least, they assume a splitting or slaty character, and generally speaking, the lower and older the bed, the better and finer slates will it yield. Those altered or *metamorphic* rocks, as they are technically termed, are gneiss, mica-slate and clay-slate rocks.

Gneiss is a rock having the same minerals as granite, but arranged regularly in layers; thus a layer of quartz, then a layer of felspar, and lastly, one of mica, and so on, repeated through the whole thickness of the rock. It varies in its character in proportion to the quantity of these minerals present, and soils formed from them vary, also, but almost always resemble granitic soils. They are, however, poorer and yield a scanty herbage, requiring high manuring to yield any profit on farming. Small quantities of manure, added every year, tell better on gneiss soils, than heavy manuring repeated seldom. Gneiss constitutes the surface rock of Manhattan or New-York Island, over nearly its whole extent, a great part of Westchester, and the counties east of the Hudson. A large tract of the Highlands is gneissose, and a great part of Scituate, Coventry, and West Greenwich, in Rhode Island. The Green Mountains, in Vermont, are to a great extent, of gneiss, as is the hilly district on the west of Lake Champlain. Gneiss is found forming the rock and soil of Essex and Clinton counties, in this state, and among the Adirondack Mountains. Soils formed from this rock are found scattered over every primary district in New England.

SUNDRY ITEMS.

To Renovate Old Meadows.—I have lately seen a new mode of renovating old sod-bound pastures and meadows. It is to take a subsoil plow and three horses, (which make the best team,) and plow the field, overturning no furrow, but loosening the earth below, about one foot deep, harrow the same way, sow grass seed, and roll down with a heavy roller. This is the practice of a landlord who prefers grass to any other crop, and the effect is astonishing. I saw a piece that had just been served so. The sward, of course, was broken in streaks, and the grass seed was up most beautifully on these. The unbroken strips had been stretched and moved a little, so as to expose the old roots a little to air and moisture.

To Cure the Sore Necks of Oxen.—A neighbor of mine had a pair of working oxen whose necks became very sore. He covered that part of the yoke resting upon the neck, with sheet lead. They got well almost immediately, though constantly kept at work. I suppose the lead being a good conductor of heat, drew off the inflammation, and thus enabled the sores to heal.

Easy and Rapid Way of Sowing Plaster.—When I sow plaster, instead of setting my men to lugging it upon their backs and necks all day, I take a two-horse wagon, fix a long box across the back part of the wagon, and a seat forward of that, on which a man is seated, riding backwards. Then, with a quarter or half a ton of plaster in, I seat myself in front and drive back and forth, across the field till the load is sown out of the back part of the wagon. In this way, I can sow as fast as four or five men, and with less manual labor. My neighbors laugh at this, as being a lazy way. But I find a neighbor's laugh much easier to bear for a few minutes, than it is to carry a back load of ground stone all day.

Benefit of Guano.—Two years ago, I used half a ton of guano in various ways, some on grass, some on corn, and some in garden. The season was unusually dry, and I saw no effect from it, except in the garden, upon a bed of peppers. These were the largest I ever saw. Last spring, I planted some chicken corn upon this pepper bed, which grew nine or ten feet high, about double the usual height. I regret, now, that I had not procured some more for wheat, last fall. Would it pay to put it on wheat in the spring? [Yes.—Eds.] What would be the effect upon the spring-sown grass seed, while the plants are young and tender? [Very beneficial.—Eds.] I think I used it too sparingly, through fear of injury by excess, and have now a high opinion of it as a manure.

The difficulty with us farmers, is the want of capital, and hence we fear to risk much for expensive manures, lest a failure in the quick returns would put us to inconvenience. Now, if I should use it, or any one else, and raise thirty bushels of wheat per acre, I do not doubt that it would be the cause of using many tons where the article is quite unknown. W.

Dutchess Co., N. Y.

CULTIVATION OF FRUIT ON LONG ISLAND.

Among the various objects that engage the attention of Long-Island farmers, few have higher claims upon their care than the cultivation of good and wholesome fruit. No one, however small a piece of land he may occupy, or however limited his means, should neglect this important branch of husbandry. Hence it is that I think our farmers could not turn their attention to anything more profitable, at the present time, than to the cultivation of fruit. There is no place, perhaps, in the United States, where apples and late peaches would command better prices, possessing, as most parts of the island do, an easy and ready access to New York, Boston and other markets. Our soil and climate are well adapted to the growth of excellent fruit, and all that is necessary for its perfection is more interest to be manifested by our farmers in its cultivation.

The usual modes of planting apple orchards here, is to procure seedling trees from a nursery, large enough for standards, set them out at the regular distance, and graft them from 5 to 6 feet above the ground. By this method, I think they

make better tops than when budded in the nursery. I make it a point never to graft, unless I have seen a sample of the fruit of the tree from which the scions have been taken, or at least, that which has been recommended by a friend, or some other reliable authority.

As grafting and budding are very simple operations, a person may learn either with only a few minutes' instruction. All the knowledge I ever gained on the subject was from reading agricultural works.

I think that pruning apple trees in the winter or early in the spring a very bad practice, as it leaves the wound open to the wind and weather, while the sap is in a dormant state, and after it commences its flow, it begins to ooze from the wound and often causes the trees to become diseased, and bring on premature decay. They should not be pruned before June or July, when the sap is up, and as it descends it will heal over the edges of the wounds. One of the greatest errors that farmers commit, is, that they do not prune at all, or at such long intervals as to be under the necessity of taking out large limbs, which require a long time, if ever, to heal. Pruning should be done often, and when the limbs are small. Then the wounds soon heal over, without any injury to the trees.

HAWLEY B. ROGERS.

Long Island, March, 1850.

SILK COCOONS.—Silkworms will have wound their cocoons from the 1st to the 20th of this month. Those you wish to reel, may be left in the hot sun a day or two, or they may be exposed a few hours in an oven or kiln, heated sufficiently warm to cause bees' wax to melt. Those intended to produce eggs for the next crop, must be selected and placed on sheets of moist paper, in a cool, dark room. From 100 to 120 pairs of millers will produce an ounce of eggs. Each female lays from 300 to 500 eggs, averaging about 350. An ounce of eggs contains about 40,000. If well saved from good millers, and safely kept, they will nearly all hatch and produce good worms. Our climate is admirably adapted to the production of the silkworm, as is shown by the fact, that while an average of 30 to 60 per cent. of the worms are lost in Europe, from climate, food, and disease, scarcely five per cent. are lost in this country.

ENGLISH AND AMERICAN HUSBANDRY.

A RECENT number of Blackwood's Magazine contains an article entitled "British Agriculture and Foreign Competition." It gives, among other things, the price of wheat in several countries, the cost of transporting it from those countries to England; and, adding the present nominal duty, the cost price of this foreign grain in the British market. At present rates of rent and present duties, it is contended, English agriculturists cannot compete with these foreign wheat growers. It would be foolish to contend that they can compete with farmers who can purchase equally as good land as much of that in England for the money annually paid in rents

and taxes by the English. But the assertion might be ventured that the mode of culture employed in England *may* have more to do with the embarrassment of the English farmers than we or they are perhaps aware.

I do not propose to enter upon a discussion of the principles nor policy of protection, for this would not be an appropriate place for such a discussion; but I must say that, from what few observations I have been able to make on the husbandry of England, I am convinced that the repeal of the corn laws is not the only cause of the present embarrassed situation of the English farmer. If this is so, protective duties are not his only hope and remedy. I have not visited every part of England, nor have I ever examined every implement of agriculture in use there, but from what I have seen, I have not found the mode and manner of tillage there so scientific nor economical as it might be, nor as might reasonably have been expected from the reputation English farmers enjoy as agriculturists.

The article in question contains an estimate of the expense of putting in and harvesting an acre of wheat in the wheat-growing parts of the Mississippi Valley. Including two dollars for plowing, it makes it out at seven dollars. Let us see how the English farmer puts in and harvests his field of wheat.

Not many years ago, I passed the seasons of seed time and harvest in one of the best wheat-growing districts, in Staffordshire, England. I had therefore an opportunity of seeing how these important operations were there performed. I never saw less than three, and many times I saw four and five horses drawing, at a slow pace, a single plow. Most American farmers would have plowed the same land, equally as well, and in half the time, with a pair of horses. But to do so, of course, an American plow also would be necessary. Then two, three, and even four horses were employed to draw a harrow, and frequently have I seen as many as eight drawing a spiked roller. Now these horses are only kept at a great expense, far greater than would be in this country, where provender is less valuable. Let the English farmer, then, either improve his implements of tillage, so that they can be worked with less power, or increase the speed of his horses, so that more can be done in the same time, and an improvement and a gain will be effected, which will, to a certain extent, relieve him from the ruinous effects of the present anti-protection policy. This will most certainly be the result. In America, we have been led into improvements and expedients of every kind to meet the high price of labor, and now we can put in and harvest an acre of wheat for seven dollars. The English will find it necessary to resort to these same improvements and expedients to meet the low prices of which they now so bitterly complain.

But this will be difficult and mortifying to the English, they have such a *notion* of solidity and stability. They seem to have also an extraordinary reverence for certain old customs and

practices. In that part of England referred to, wheat is commonly reaped with the sickle, at an expense of from twelve to fifteen shillings sterling—nearly the half of seven dollars. Oats are mown with a naked scythe, and then "taken out," as it is called by the hands, and so bound into bundles. The scythe and snath resemble those used by us twenty years ago.

I remember having tried to explain the construction and operation of our grain cradle to one of their farmers. As soon as I had made him understand it was but little more than a simple scythe and snath, *he at once saw what I meant*, and said he would show me one. We repaired to his plow house, and he brought out a very *antique* scythe and snath, the latter armed with a switch or spring, the office of which was to throw the grain round, as the scythe cut it. This was the only grain cradle he had ever seen!

If what I have said is over-drawn, that is, if I have endeavored to put American husbandry above that of England, I am misunderstood. If we excel the English in any of our labor-saving machines and implements, it is, without doubt, because we have been constrained to it by the low price of produce and the high price of labor in this country. As I said before, to meet the reduced prices of corn in England, her agriculturists will have to adopt the same expedients. But this will not mend the matter entirely. Present rents are too high for present prices.

Cayuga, N. Y., April 10th, 1850.

EGREC.

CULTIVATION OF TIMBER.

TWENTY years ago, our county could boast of large forests of as fine ship timber as could be found elsewhere. Indeed, it is a good recommendation to a ship, to say that she was built of Delaware white oak. As fine black oaks, also, as the country can produce, are found in this state. Nevertheless, they have fallen before the axe of the woodman, until we have in many cases to depend on Maryland and New Jersey for rails to keep up the fences of our farms. In view of these facts, I propose making a few remarks on the cultivation of timber to supply, as far as practicable, the deficiency, hoping thereby to induce some one to try to make two trees grow where only one grew before.

In 1839, I bought the property where I now reside, at which time it was destitute of timber, either for rails or fuel, and there was not rail timber enough on the farm to fence one field. In the fall of that year, I bought about half a bushel of chestnuts, mixed them with a portion of earth, put them in a box, and left them out exposed to the winter, which was unusually warm, and many of the nuts sprouted before I was aware of it. I planted them where I intended them to grow, in February, 1840. The spring was unfavorable to their vegetating; nevertheless, after the crows, mice, and ground squirrels got their share, I have about 1,000 left, many of them fine, thrifty trees, between 30 and 40 feet high, and 18 or 20 inches in circumference, which I would not have dug, or grubbed up, for a dollar each. These will soon

do to cut, and the stumps will be worth more afterwards than the tree was before, as it is allowed that one good stump will produce a rail for each year, letting them remain ten or twelve years before cutting again. So, if I can get a few hundred trees a growing, I may keep myself and posterity in rails for some years to come. Besides, they will thrive on the banks of creeks, gullies, or waste places, where nothing else valuable will grow. I find that they will grow anywhere that pine will thrive; but I believe that a sandy loam is best adapted to them. So much for chestnut.

Pine would next seem to claim attention, as a substitute for fuel, being the most convenient and productive, especially on worn-out land.

In February, 1840, I sowed a few quarts of long-leaved pine seed, costing \$1 per quart, on a rough sedge field, or patch, without any preparation whatever. Sedge sward is better than clean land. I have now several acres of these trees well set, from 30 to 40 feet high, and some of them 30 inches in circumference. They have commenced seeding, and should I commence cutting to-morrow, I should have no fear of a constant supply of fuel; and that, too, from land too poor to pay for cultivation; indeed, not worth keeping under fence for any other purpose. There are many groves of pine in this county, all, or nearly all of which have been sown by the present generation. An old gentleman of my acquaintance sowed a lot in pine after he was forty years old, and lived to build a house from the timber. Although I may not live to reap the fruits of my labor, is it not a duty to sow and plant for posterity, and try to leave the world the better for having lived in it?

Kent County, Del. April, 1850.

C.

WISCONSIN FARMING.

This and the adjoining counties are fast filling up with immigrants. There are no government lands for some miles round this fountain city (Fon-du-lac); they are principally in the hands of actual settlers, who are mostly New-Englanders and New-Yorkers. The climate is beautiful, and the country exceedingly healthy. We were plowing until the 10th of December. Wheat does remarkably well here, yielding from 25 to 35 bushels per acre, under very poor cultivation. There is a great demand for all surplus produce, which is principally taken north. Wheat is now worth 60 cents per bushel, corn 50, oats 28, potatoes 31, flour \$4 per barrel, butter 18d. per lb. Limestone abounds in this region.

This village, which, five years ago, consisted of one log house, now contains over 2,000 inhabitants, is more than amply supplied with stores, and has six large hotels, some of them as good as can be found in the west. We have the telegraph in operation here also. There are extensive iron works at Mayville, 20 mile south-west of Fond-du-lac, which are able to supply an almost unlimited demand with pig iron and castings of superior quality. Our winters here are not so severe as might be expected from the latitude. There is just about enough of timber

in this region for all useful purposes; the country is well divided between timber and prairie, so that most farmers have part of each. Stock can be raised very cheap, and always bring a good price.

The lovers of Flora would find this an ample field for study from April until November, as the prairies are literally covered with flowers all that time. The first we have is phlox, of three varieties, none of which I have ever seen cultivated in any of the eastern gardens. They are all of low growth; the colors blue, white, and pink. The former is indigenous in the woods, the two latter in the prairies. Next comes the Dodecatheon meadia, or American cowslip, which, for quantity and beauty, exceeds belief. They are succeeded by taller-growing plants. Conspicuous among them I would mention the *Bablisia alba*, and last in the season, the *Liatris scariosa*, which keeps in flower until the frost comes, and is remarkable for opening then first at the top of the stalks.

Can you or any of your readers give a description of an instrument for taking the height of trees while standing, I think I have seen an account of one many years ago in Loudon's Magazine.

Will wheat degenerate on the same farm if the ground is kept in good condition? [No.—Ebs.] Mine is a very superior kind, and I do not wish to change it. I have grown it four years, and my crops get larger every year, the berry being now as good as the seed I first procured. I hope some person will be able to step into Reviewer's shoes, as his criticisms are always to the point.

Fond-du-lac, Wisconsin, Jan., 1850. S. S.

EXPERIMENTS IN AGRICULTURE.

THE value of an agricultural journal depends upon the number of experiments connected with farming business, judiciously made, and fully detailed, which it makes known to the agricultural world. We go to books, usually, for abstract learning, but the common routine of practice may be picked up anywhere. We want to know through periodicals, current facts—what improvements have been attempted—how they have been attempted, and with what success—good or ill; for it is just as important to know what has failed as what has succeeded, and in general more important. Saving is gaining. We may be able to gain by few of the operations that have been profitable to others, since a thousand causes may prevent our even trying to do so. But there are few failures, the knowledge of which would not, in some way, serve and benefit us. Now, nearly every farmer is experimenting, more or less, all the time. How few of them let us know anything about these experiments. Failures are always kept profoundly secret; and as success rarely equals expectation, that is seldom deemed worthy of being made public. For the most part, the accounts we have of experiments, are from persons, who, having undertaken something new and important to themselves, cannot restrain their desire to talk about it. They rush into the journals, sometimes at the first heat, when they have

only conceived the thing, and before they have begun to work. In general, however, something has been done, and high hopes are entertained. We then hear of the beginning, and the brilliant prospects, and, nine times in ten, we never hear of the matter again. It fails—of course we are not told, though I think the experimenter is under solemn obligations to do it. It succeeds partially, and is not thought worth saying more about. It succeeds entirely, but the novelty is gone; it has become an old thing, and the experimenter is looking forward to something else. How many half-told experiments lie buried, Mr. Editor, in your past volumes!

But the worst is, that where even sensible farmers undertake to give accounts of valuable experiments and improvements, they seldom do so in a way to be understood to any useful extent, at a distance. Few appreciate all the particulars that go to constitute an experiment, every one of which must be accurately detailed to enable another to profit by it. Now let us consider a moment as to experiments in growing crops. First, we must know what kind of land the crop is grown on. Nothing can be more unsatisfactory than to say, it is clay or sand, or even heavy clay or loamy sand. To arrive at certainty, we ought to have an analysis of it. At least, we should be told as nearly as can be described, the precise nature of both the soil and subsoil. Then we should know what is its geological character—what rocks, if any, exist in the neighborhood, and as near as may be, its longitude and latitude, for climate and position are of vast importance. We should also know the previous history of the land, and its treatment for many years before. If manure is used, we should know the ingredients and value of that, the time and manner of applying it, and the precise quantity in bushels, cords, or tons. When I come to so many "loads" of manure used in an experiment, I stop reading and pass on to the next article. My loads of manure vary from ten bushels to a hundred, and I have no idea of a load of itself.

Next, we must know something of the seed used. There are 100 varieties of wheat, and 150 of potatoes and perhaps as many of corn. The variety planted, is important. How often, how deep, and at what times the land was broken and the crop plowed must be stated. When the ground was seeded—how deep, how covered—when it came up—how much rain and drouth it encountered; all these must be known. And lastly, the amount of production must be stated in exact weight or measure, or both. All these particulars, and many I have not enumerated, are indispensable to be known, that one farmer may profit by the experiments of another, a hundred, or even twenty miles distant. Yet how seldom are they given. How seldom does the experimenter himself know, or keep any accurate account of these things. And here is the secret of the slow progress of agricultural improvement. Not one farmer in a thousand knows half the time, what he himself is doing. For the want of knowledge, of close observation and accurate registering of details, he is

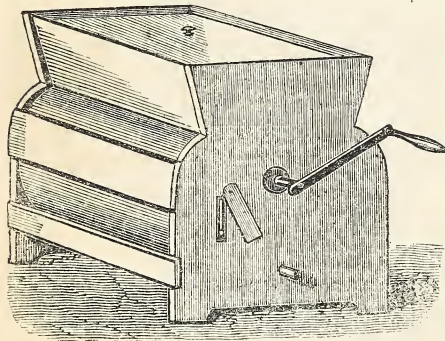
forever attributing effects to wrong causes, and goes blundering on, blindly groping his way year after year, and if he writes for the journals, leading others astray. And this has been repeated so often, that it is not to be wondered at, that book farming is held in contempt.

COKE.

THERMOMETER CHURN.

This churn is so constructed that the cream or milk is readily brought to the desired temperature without mixing with water, and the temperature definitely determined, which is of great advantage in making butter.

One improvement consists in the construction of a double bottom, made in the form of a semicircle, of two sheets of zinc, or other metal, placed one above the other, the cream being contained in the uppermost. Between the two sheets forming the bottoms, is a space, or chamber, into which may be introduced cold or warm water as may be required, to increase or diminish the temperature of the cream or milk. The water is easily applied by means of a common tin tunnel, through an aperture, or hole, in the side of the churn.



THERMOMETER CHURN.—FIG. 51.

Another improvement is a thermometer permanently placed in one end of the churn, entirely secure from breaking or accident, marked at 62°, and which is always visible, so that the operator may know when the cream or milk is brought to the proper temperature. If the cream or milk is too warm, the mercury in the thermometer will rise above the mark of 62°, and cold water should be applied in the chamber described; if too cold, the mercury will fall below the mark, when warm water must be used. The cream or milk should be stirred by the crank, while the water is being introduced, to give the cream or milk an equal temperature throughout. When the thermometer indicates that the cream or milk is of the proper temperature, the water may be drawn out through the tube placed for the purpose, when the churning should be performed by giving the crank about forty revolutions to the minute. By reversing the motion of the crank, it is liberated, when both it and the dasher, or floats, are drawn out.

CULTIVATION OF POTATOES.

AFTER numerous trials, I have come to the conclusion, that, for the soils generally cultivated in Massachusetts, and best adapted to raising the potato, plowing in spring is preferable, in depth not less than 8 or 10 inches, spread with 20 loads of good compost manure to the acre, (high manuring invariably increasing the rot,) well mixed with the soil by harrowing or plowing to the depth of 3 or 4 inches. Plant as early as possible, running a furrow 6 or 7 inches in depth, the distance to suit the cultivator, say from 3 to 3½ feet between rows; then take large potatoes, (in these times of scarcity they may be cut,) making two hills. I consider half a large potato preferable to any number of small ones for seeding; they throw stronger shoots, and come forward earlier (I wish to be understood that this includes only the round varieties); place them 2½ feet apart, with the cut side down; then, with a small shovel for the purpose, drop immediately on the potato half a pint, more or less, of ashes, leached or unleached; then cover with fine soil 3 inches; when at the height of three or more inches, cultivate or harrow, (not plow,) and hoe, leaving the surface level, taking care to pull from each hill all but three of the strongest shoots. In after hoeings, which should be two or more, small hills may be raised. Now for the result. By planting deep in the soil, the young tubers do not heat by the sun, as when growing on a level with the surface, which I consider one cause of rot; the ashes affords potash to the plant, of which it requires considerable quantity, also are a good remedy for the ravages of the wire worm; reducing the tops to two or three in number, the stalk grows thicker and stronger, and in case of disease, is less liable to become affected at the root; and on repeated experiments, I have invariably found as many bushels, with three fourths less "small potatoes," than where from five to eight sprouts were suffered to grow.

Now for the long varieties, such as long reds, ladies' fingers, long black Mercer, &c., from repeated trials, year after year in planting larger potatoes, whole, or split lengthwise, one half in a hill, or cut crosswise in the centre, with seed end, no perceptible difference, but with the stem end I have always obtained more bushels of a uniform and large size than from any other manner of seeding. In experiments to prevent the rot, I have found that deep plowing, dry land, light manuring, early, deep planting, ashing, with good tilling, and early harvesting, generally secures a middling crop of sound potatoes. Cutting the tops, if done immediately on the first appearance of the purple tinge upon the leaf, will secure the root from rot, but they will not grow afterwards; if they are small and green they remain so. I have dug early-planted potatoes when nearly grown, on the first appearance of the disease, scooping a hollow in the field, turning in half a bushel, burying them four inches in a conical form, digging a trench around each hill to convey the rains from them; let

them remain until freezing nights, then housed without the least sign of disease ever affecting them, when part of the same field, left and harvested at the usual season, was badly affected.
C. S.

✓ ALUE OF SEAWEED AS A FERTILISER.

MR. CHAMBERLAIN, cashier of the Farmer's Bank of Virginia, at Norfolk, is one of that class called "fancy farmers," by another and more numerous class, who never had a fancy to do anything different from what their fathers did before them; and who complain of "worn-out land," and talk of emigrating because they cannot make a living upon such a poor soil; and yet neglect to use one of the most valuable manures which Providence in its bounty sends to their very doors, because "they reckon if it was of any account, daddy would have used it," and as he did not for years and years, they must not, until at last some one whom they ridicule as an "experimenter," happens to prove to them that it is beyond dispute one of the best and cheapest fertilisers which can be used upon tide-water farms.

To prove this fact, Mr. C., when engaged in cultivating a small farm a few years ago, instituted the following experiments:—He laid off nine beds seven yards square, containing each the one hundredth of an acre, dividing them with pine poles. These were manured and spaded up, turning under the manure, and each sowed with one pound of oats, which would be at the rate of three bushels to the acre, and one ounce of clover seed, which would be at the rate of six and a fourth pounds to the acre. The oats, when ripe, were cut, cured, and weighed upon the spot, and resulted as follows:—

No. 1. Without manure. Crop, 10 lbs., or 1,000 lbs. to the acre.

No. 2. One horse-cart load of seaweed, or "sea ore," gathered from the beach and spread immediately upon the land and spaded under. Crop, 47 lbs. An increase of three and seven tenths for the seaweed.

No. 3. One load of same and half bushel shell lime, fresh burned. Crop, 43 lbs.

No. 4. Same and one bushel lime. Crop, 41 lbs.

No. 5. Same and two bushels lime. Crop, not weighed, injured by cows, but not so good as preceding one.

No. 6. One load same, reduced to ashes, making about a barrelful. Crop, 15 lbs.

No. 7. One barrel of leached ashes, cost 25 cents at soap works, and hauling. Crop, 30 lbs.

No. 8. One barrel unleached ashes, worth 25 cents. Crop, 47½ lbs.

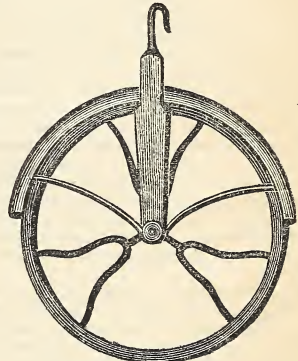
No. 9. One horse-cart load of good stable manure. Crop, 30 lbs.

Thus it will be seen that the fresh seaweed was more than 50 per cent. better than stable manure, and more than 200 per cent. better than the ashes of the weed when dried and burnt; that lime was a detriment, and the greater the quantity, the worse the result; and that nothing tried was equal to the seaweed, except the

fresh ashes from the house, and that plot gave a slight increase over the seaweed, and more than 50 per cent. better than the leached ashes. It was a sandy soil, and, as the crop without manure proves, it was naturally very unproductive. The difference in the growth of the clover afterwards was in a corresponding proportion to the oat crop. Such experiments upon a more extended scale, are just what the world wants, and just such as we should like to have our friends furnish us, in order to make them known to those who read the *Agriculturist*.

WELL WHEEL.

This is a cheap fixture with a rope to raise water from wells, and is admirably adapted for raising and lowering light weights about stores and warehouses, as it works with much ease and expedition.



WELL WHEEL.—FIG. 52.

MANURES.—No. 1.

MANURES are such substances as tend to fertilise the soil, and fit it to support an increased vegetation. They are not only the food of vegetables, but in their modern sense, they include all materials whose incorporation with the soil, aid in its melioration, or in developing the vegetable food they contain, and fitting it for assimilation by the growing plant. It includes such, also, as abstract it from the air, rains, dews, and snows, and hoard it up for the use of crops.

The first embrace all animal and vegetable matter, and ashes—every particle of them—for they have once constituted parts of vegetable structures, and will again, whenever exposed, to be taken up by plants, under all the conditions necessary for their absorption. They also include water, atmospheric air, and many of the salts and gases, which may have been dissolved, and are now contained in water, or are mingled with the air. The latter include lime, plaster, salt, and other mineral manures, charcoal, and soot, all of which furnish some food to the plant, but whose beneficial action in the soil is mainly due to the mechanical alteration they effect in

such as require it, (as sands, clays, and peat,) or that are useful as absorbents of ammonia, and other fertilising gases abounding in the air. Each of these, and some others, when incorporated in the soil, act in this way, and draw large quantities of vegetable food from the air and rains.

In enumerating the various kinds of mineral, vegetable, animal, liquid and gaseous manures and their application, we shall go over a wide circle of practical information, but in a somewhat discursive way; for it will matter little to the farmer, what may be the order of his information, if he but secure it.

Manures, when judiciously applied, are the great sources of agricultural wealth. They beautify our fields with their rich harvests; they fill our barns and granaries with food, and our yards and stalls, with well-fattened flocks and herds; they load our tables with every substantial viand and grateful delicacy; they clothe us and our children with the healthful and graceful fabrics we derive from our wool, flax, and hemp, our cotton, or our cocoons; they yield us a sheltering roof and walls from the summer's heat and winter's cold; and they aid us, finally, by their remunerating returns, in providing every requisite for rational pleasure and enjoyment. Homely, or otherwise uninviting as the subject may appear to the novice or superficial observer, the reflecting and intelligent will not only regard it with the deepest interest, but will aid us, also, by every means within their own observation or experience, in fully setting forth this foundation for the farmer's hopes and success.

Marsh Mud.—In commencing this subject, we shall most appropriately begin with the fertilising materials, which lie in such profusion at our docks and pier heads, and wherever there is a salt-water eddy in the neighborhood of this great metropolis. The amount of fertilising matter carried away from this city by drains, or washed down the gutters into the adjacent waters, is sufficient to fertilise 200,000 acres annually. This is spurted into the docks, where the soluble matters are speedily dissolved, and with the floating particles wafted into the wide ocean. The heavier portions alone subside, and these furnish a rich bed for the support of innumerable forms of minute insects, worms, muscles, and animalculæ. Here they find stores of rich food. Here they propagate and perish; and these vast accumulations of matter, that might have clothed the fields with verdure, serve only to minister to a comparatively worthless, or superfluous, subaqueous vegetable and animal life. A small part, only, comes back to the land as seaweed, and kelp, oysters, and other shell fish, or from a few of the countless variety of the finny tribes. All else is carried hopelessly beyond the reach of man, and distributed wherever the tides ebb and flow.

Besides the accumulations of marsh mud from the waste of man, there are large deposits wherever the outlets of fresh-water rivers meet the ocean level. These water courses carry with them, during the periods of freshets, large

quantities of vegetable and other manures, which are deposited when the current subsides. These deposits are sometimes so extensive, as to form large islands, and wide-spread deltas at the mouths of the rivers, such as the Ganges, the Nile, and the Mississippi. Where the rivers are not of sufficient size to furnish large accumulations of alluvion, or it is washed into some of the great ocean currents that float past them, these deposits may be found in the bays or eddies adjacent to the confluent waters, or remote from them, and may there be frequently secured at low tides, for the farmer's use.

There is scarcely any manure better fitted for general crops, than this sea mud. Besides the original manure which formed so large a portion of them, they contain large quantities of the remains of animal life, since reared and deposited in them; and the salt they have absorbed, is an additional and most valuable ingredient for the muck heap. We shall continue this subject in our next.

POULTRY RAISING.—No. 2.

Of the numerous varieties of barnyard fowls now existing in this country, it is difficult to say positively, what breed is the best, as a matter of profit in eggs and chickens. There are almost as many opinions as there are varieties. I think the crosses of the Poland cock with the pure Dominique hens, as I stated in the March number, are the best for laying, if not for breeding for market.

The great question is, How many eggs can be obtained from a given number of hens? I mean, by the best possible management, of course. I answer not over *seventy-five or eighty* per fowl, at most, during the year. It matters not what has been done in certain peculiar cases. I say, as a "fixed fact," that no man will ever succeed in obtaining a larger number from any breed, taking a series of years together. I would say that one hundred hens will produce 7,500 eggs in a year, as the maximum of laying with large numbers. These are worth \$75, or one cent each. It will cost from \$40 to \$50 to feed them, to say nothing of the expense of about ten cocks. A fowl will consume one gill per day of grain, at least. I estimate one bushel a-year for each fowl. Corn and oats are as good and as cheap food as can be given them, if you purchase their food; and this estimate is based upon such a supposition. Therefore, we must have 110 bushels for one hundred hens and ten cocks—say half of each. Corn is worth 60 cents a bushel, and oats 40 cents in the vicinity of New York, at which place I consider the eggs worth one cent each. How will the account stand? The expense is \$50.

The next point is, how many of these one hundred and ten fowls will probably die during the season? If I say ten per cent., you will think I am beside myself; but I do say *ten per cent.* will be the mortality among them. When one fowl dies out of ten in a season, and no more than ten are kept, we consider it a small loss, and hardly notice it. Who does not lose one in ten on an average? This is *practice*, not

theory. You all find it thus, and you will to the end of time. Eleven fowls are worth \$2.75, which we add to \$50, making \$52.75, the cost of the ninety-nine remaining fowls. I have reckoned one bushel per head as originally counting, making no abatement for mortality.

The next point is, the worth of the time in feeding and attending to them, breakage of eggs, and interest on the investment. It is truly said that "time is money." Hence let no one say, "O, it costs nothing, we do it in the family, when we should not be doing anything else." For this part, \$10 is little enough. We now have \$12.25 as the profit on one hundred and ten fowls. This is small; but the large "egg" and "chicken" stories are not to be taken as a safe criterion to go by.

I have allowed nothing for chickens. I do not let my hens sit at all in the above account, but test their laying powers only. We'll see about the chicks next time. It is true, those ten cocks were of no use at all, but who would dare keep one hundred hens for profit, without them? I will relate my experience in keeping fowls without the males, by-and-by.

Now, the great profits in keeping poultry are not what they are "cracked up to be." I have had enough of it to last a while. As to keeping a very large number of fowls by one person in one enclosure, it is a precarious business. No man should ever think of making a living by it, unless he owns a farm, and that farm is situated where the expense of getting his produce to market is considerable; but enough for the present. A fortune can be made on poultry, but not as managed now-a-days.

T. B. MINER.

Clinton, Oneida Co., N. Y.

UNDERDRAINING CLAY SOILS AND SUCH OTHERS AS ARE NATURALLY MOIST, OR RETENTIVE OF WATER.

WE believe no journal in the country has more frequently nor earnestly advocated the thorough underdraining of all such lands as require it, than our own. Every additional fact coming under our notice serves to confirm us, not only in the importance, but in the absolute necessity of the adoption of this system to render the cultivation of such lands profitable.

We have, for instance, a piece of land, that, owing to the excess of moisture, held in the soil, is not in condition to be broken up, till quite too late for planting or sowing; and when subjected to the plow, is turned up in such ponderous clods, as to be almost wholly unfit for the purpose of cultivation. These lumps require weeks, and sometimes months of exposure to the atmosphere, before they crumble down into fine soil, capable of admitting the roots of plants and ministering fully to their support. Every rain that falls, instead of percolating rapidly through the soil to the underdrains, thus imparting to it the warmth and vegetable food contained in the rain water, and then hurrying away to permit the genial air to follow and yield up its warmth and food for the same beneficent purpose, is held by the tenacious earth,

to the great injury, or almost total destruction of the crop. The result to the occupant is, hard work and meagre returns—investment of capital, seed, and labor, and no adequate remuneration.

When, however, this land is once thoroughly underdrained, the change is as striking as if one had moved into another latitude, or into a foreign and more favored country. The water, before perpetually resting in the soil, and brought to it in such quantities, by our abundant rains, is silently, though surely and rapidly drawn away, leaving the soil dry, mellow, and warm, and ready to receive the plow and the seed at the earliest return of spring. Its fine condition gives instant and vigorous growth to the plants, and every successive rain, no matter how profuse or frequent, adds to their supply of food, and the means for their development and progress towards maturity. The water does not now remain and stagnate on the surface, nor form a mortar bed for a foot below it. It sinks immediately through every successive layer of roots, and, after yielding all the nutriment it is capable of affording to them and to the soil, the now superfluous and even detrimental water is filtered into the drains, and passes away from the field.

And when these profuse rains are succeeded by long and parching drouths, as they not unfrequently are, the drained land is not the less prepared to resist their deleterious effects. The depth of soil greatly increased, from thorough drainage, facilitates the upwelling moisture from remote depths below the surface, which impart their nourishment to the roots as they ascend. This moisture, too, is frequently saturated with some one or more of the mineral salts, as lime, plaster, potash, soda, and the like, which adds to the food of the crop, and imparts a permanent fertility to the soil. And still more advantageous is the fine pulverisation of the earth which the elements effect in the soil, where thorough drainage has been allowed to do its perfect work. The earth will be found to have become porous, loose, and friable. There is a telegraphic communication established, not only between the surface and the remotest depths of the soil, but even between the air above, and the air below it, which circulates through the drains. This is literally true, for the soil is now in condition to permit, and even invite and favor those electrical operations and changes in the soil, which stimulate the plants and hasten and augment their development. Each of the underdrains are tunnels, through which the air is constantly passing; and at no period of the year is the atmosphere so loaded with moisture, as during midsummer, when drouths most frequently prevail. It is thus capable of yielding the largest quantity to the soil, in its passage through it, a result which is found to follow, wherever deep draining and subsoil plowing are practised. When surrounding, undrained, shallow-plowed fields are parched with drouth, such adjoining ones as have been properly treated, are found almost saturated with a wholesome moisture; and the crops upon them, under the double advantages of heat, and sufficient

moisture, are stretching away to the fullest perfection of their stature. The difference in the average annual value of crops, raised on drained and undrained fields, is frequently *five to one*; and wherever their natural condition is such as imperatively to require drainage, it is seldom less than two to one.

The expense of this operation may, at first sight, seem too great to admit of its adoption in this country, where land is so abundant, and labor so dear. And so it is, wherever land is so cheap that the current value of three or four acres, is only the cost of draining one. But if the same quantity of produce can be raised from one acre that is well drained, that is yielded by two acres of similar land, undrained, we have the same money received from the one acre as the two; and we have it, too, at a much less cost; for in the last, we have spent twice the labor in preparing, planting, cultivating, and harvesting, and often more—twice the seed, twice the manure, twice the fencing, and twice the taxes. All these expenses may, and frequently do, on unprepared land, much exceed the value of the crop, while such as has been thoroughly drained, seldom fail to yield the most satisfactory returns. Thus, one man may be annually growing poorer by his work, while another, more intelligent, considerate, and enterprising, may be growing rich. We were about to assert, that it is better to sell one half the land required to be drained, and with the proceeds, drain the remainder; but a moment's reflection assures us that a man had better give away one half, and find means to drain what is left, than go on in the untidy, thriftless, wasteful system of neglect, pursued by too many.

The expense of thorough underdraining in England, a few years since, was from £7 to £10, or even £12 per acre; but, owing to recent improvements and facilities in the mode of doing it, and procuring materials, the cost is reduced to about £4 or £5, (\$20 to \$25,) a point beyond which, it would seem scarcely to admit of being lessened; though a recent intelligent writer thinks an implement can be made that will accomplish the excavation, for $\frac{1}{4}$ d. per yard that now costs $\frac{3}{4}$ d. We have but to procure machines for making the pipe tile, and provide the proper implements for excavation, when we can accomplish the same object, as cheaply as it is now done abroad. The difference in labor is all that we have to overcome for this purpose, and this may be nearly balanced by the adoption of some machinery not used elsewhere; and by the advantage our drier, hotter climate affords us, of efficient draining, although drains should be placed further apart. We think, at the utmost, we need not add more than 20 to 30 per cent. to the English prices. This may make the cost of draining, from \$25 to \$35 per acre—possibly, in some instances, \$40. If the result should prove that we can double the crop on such fields, there are millions of acres of land in this country, that will this moment justify the adoption of a system of thorough underdraining; and money, talents, and labor will be vastly more profitably invested in this way,

than in the insane investments of life, health, capital, everything, daily and profusely made in California, and similar enterprises.

With these manifest advantages, which commend themselves, at a glance, to every intelligent mind, and which are felt and acknowledged by many of our most enlightened agriculturists, why is not the system at once introduced and generally adopted? The answer may be readily found, in the unwillingness of the human mind, to deviate from the beaten track, want of capital, want of tools, and want of encouragement and example. Even in England, after 50 years' practice, in limited sections of the kingdom, the system required the encouragement of parliament. This was afforded by the loan of \$10,000,000, in moderate sums, to such landlords and tenants as chose to accept the offer, on condition of an annual repayment to the government, of 6 $\frac{1}{2}$ per cent. on the amount borrowed, for 22 years, which fully discharged both principal and interest. Parliament has further and indefinitely augmented this fund, by enacting "The Private Money Drainage Act," which gives equal encouragement and security to the capitalist, and facility and advantage to the tiller of the soil, to secure to himself all the advantages of the system, at the smallest inconvenience and expense. How beneficent and politic was this act, and how greatly does it reflect the sterling sense and patriotism of its legislators, in comparison with the paltry, mousing policy of our state, and general legislation on similar subjects!

In the absence, however, of all anticipated legislative aid, we are happy to be able to record the fact, that the system has already been commenced at various and remote points in the country, by individual enterprise, and its advantages must soon commend it to a wide-spread and general acceptance. We had hoped to enter with some minuteness into the various plans and modes adopted, but our present limits forbid, and we can only hope to recur to it again hereafter.

We will add, for the guidance of such as may be inclined to import a machine for making drainage pipes, that of all the machines for this purpose, exhibited at Norwich, England, in 1849, Whitehead's stood decidedly first, and was awarded the highest premium. This machine was worked by two men and a boy, and turned out in five minutes 185 pipes, 13 $\frac{1}{4}$ inches long by two inches diameter. Its cost is £23 in England, or less than \$100.

GAPES IN CHICKENS.

ABOUT a year ago, a correspondent of the Dollar Newspaper published an article on the above-named disease, and tried to prove, (and no doubt believed,) it to be dyspepsia. He said that a brood of chickens, hatched and reared about an old out building, was all healthy and free from gapes, while those raised in the neighborhood of the dwelling or dunghill, were nearly all affected with that disease. I have raised some thousands of chickens, and in different places. My experience is that they are not lia-

ble to gapes about a new building, especially on newly-cleared land. There is something about fresh land congenial to the health of poultry. I have thought it might be animal food in the shape of insects, &c., or that it might be rotten wood. Be this as it may, I am fully satisfied that the disease is not dyspepsia, from the fact that I have seen it cured in five minutes. At the house of an acquaintance, in a village a short distance from my residence, when a chicken, nearly as large as a robin, was sent in from a neighbor, in the last stage of the gapes. I asked the lady if she could cure it. She said she had cured many, but that looked like a hopeless case. However, she would try. She took the chicken in her lap, drew a feather from its wing, stripped it to within about half an inch of the point, turned the chicken on its back, with one portion of the bill between her thumb and finger, while a little girl held the other; she then ran the feather down its throat and gave it a quick twist and jerk, and drew out a red, wiry worm about an inch long. The poor thing seemed nearly exhausted, but in less than a minute, it gave a kind of cough or two, and discharged a small quantity of blood, and in five minutes was eating, and to all appearance, perfectly restored. Several others of my acquaintance practise the same mode with success.

This is the disease, and one of the remedies; but what should cause it in one locality and not in another, is more than I can divine. Lime water, and coarsely-ground corn are considered by some persons, as a partial preventive.

Kent County, Del., April, 1850.

C.

VALUE AND DURABILITY OF PERUVIAN GUANO.

Most farmers who have not fully tested the value of guano, as a manure, doubt the continuance of its effects much beyond the first season. All seem willing to admit its great superiority over every other purchasable manure, an opinion that will be fully corroborated by both the following experiments, which have the endorsement of the Royal Agricultural Society of England, for their correctness. The first, while showing an increase of crop for the first year, of 80 per cent. over two other manures, and of 200 per cent. over two others, gave an increase of crop over the average of the other manures of 53 per cent. the second, and more than 28 per cent. the third year after application, all the manures costing the same price. The result might not have been so much in favor of the guano for the second and third years, had farm-yard manure been used; but it is perfectly conclusive as to the durability of the guano, beyond even the second year. I hope we may have, to record, ere long, some reliable experiments from our own farmers on this important subject.

The field on which the first experiment was made, was an acre of inferior pasture land, in Stover Park, in the years 1847, 1848, and 1849. It is of uniform quality, the soil being a light, sandy loam, a few inches in depth, incumbent on a stratum of white clay.

The land underwent thorough draining, in 1844, prior to which, it would not produce a rent of more than 5s. an acre.

No manures were applied to the land in 1848 nor 1849.

The object sought to be attained by extending the experiment over a period of three years, was to test the *durability* of the different manures.

No.	Manures applied in 1847.	Weight of hay cut in 1847.	Weight of hay cut in 1848.	Weight of hay cut in 1849.	Cost of the Manures
		lbs.	lbs.	lbs.	£. s. d.
1	Six cubic yards of mud mixed with six cwt. of salt	312	327	613	0 14 0
2	Six cubic yards of mud mixed with 1½ hogsheds of lime	353	337	538	0 13 6
3	Six cubic yards of mud mixed with three bushels of bonedust	511	419	670	0 14 3
4	Three cubic yards of mud mixed with three cubic yards of tanyard refuse.	524	354	558	0 14 0
5	Six cubic yards of mud mixed with 90 lbs. of Peruvian guano	930	550	725	0 14 0

N.B. The after grass, in 1847, was stocked with sheep, but in 1848, it was left unconsumed, one fifth of an acre only, being appropriated to each manure.

The manures, when mixed with a small quantity of fine earth, were applied broadcast in No. 2, March 29th 1849, and during rainy weather which prevailed at the time.

The field is of a fair average quality, and was formerly used as tillage land, but has been in pasture for many years.

The crops were mown June 22nd, and the herbage, produced by the different manures, was of a superior quality.

No.	Manures applied.	Quantity applied per acre.	Weight of hay cut.	Weight of hay cut per acre.	Cost of the Manures per acre.
		cwt.	lbs.		£. s. d.
1	None.....		401	1,604	
2	Superphosphate of lime	9	616	2,460	3 12 0
3	Nitrate of soda.....	4	706	2,824	3 12 0
4	Peruvian guano.....	6	1,210	4,840	3 12 0

PROFITABLE DOGS.

I SEE you ask for the profit of dogs. Here it is. I work 37 field hands, and nine women out doors, and I keep about half as many dogs. I don't know which earn the most, niggers or dogs, (as I come out about squar at the end of the year,) but I do know that I ain't troubled with my neighbors' sheep as I once was; for you must know I would go as far out of my way to kick a sheep, as John Randolph, and the dogs, I reckon, will go fifty times as far to kill one. The only real trouble I have had, was, when my big mastiff, *Grizzly Barr*, I paid \$75 for, run mad, and bit nine of my blood and fox hounds, that cost me nigh on \$500, three bull dogs, and four of my best field hands, I had refused \$750 apiece for. But I consider everybody must make some sacrifice for his country and humanity, as our Arkansas boys did when they left their diggings to lick the Mexicans. So I conclude I won't care.

BOB BLUFF.

Catamount Holler, Arkansas, May, 1850.

EXPERIMENTS WITH RUTA BAGAS.

LAST fall, I gathered from one and a half acres 1,200 bushels of ruta bagas, and the whole cost, when in the cellar, was two cents per bushel. The season was particularly unfavorable to their growth, as the dry weather set in as soon as they were out of the ground, and continued for six weeks. At the end of that time, they looked so badly, that I did not expect to have 200 bushels; but the weather grew more favorable, and gave me the above yield, which I have been feeding out this winter to sheep, milch cows, fat cattle, and breeding sows, to my satisfaction, as to their great value for feeding this kind of stock.

I am convinced that I can winter sheep better with half the cost on hay and ruta bagas, than on hay and grain. Sows, intended for rearing pigs, will do better on ruta bagas and a little grain, than when fed entirely on grain.

I also proved by experiment, this winter, that fat cattle will grow faster on eight quarts of grain and one bushel of ruta bagas, than on sixteen quarts of grain and no ruta bagas. Milch cows, when fed regularly on good sound ruta bagas, give large quantities of milk and butter; and when they have been fed for eight days, there cannot be discovered any taste of the root neither in the milk nor butter. Our butter made this winter on hay and ruta bagas, is as good flavored and nearly as yellow as that made in June. In my opinion, this crop is one of the most profitable that a stock farmer can raise.

VALENTINE HALLOCK.

Northeast Centre, N. Y., April, 1850.

AGRICULTURE IN NEW HAMPSHIRE.

NEW HAMPSHIRE is more famous for its granite foundation, beautiful and sublime lake and mountain scenery, than for any remarkable fertility of soil, or exuberance of vegetable products. Thousands upon thousands are attracted hither annually; but it is more to view our beautiful sheets of water, upheaved masses of granite, and to be regaled by our delicious mountain air, than to witness extended fields of waving grain, or the numerous other products, which other regions produce almost in spontaneous perfection. The stranger loves to indulge in his merry jokes, and represent us as "sharpening our sheep's noses—as shooting our grain into the earth among the rocks—how the cattle shed tears in the pastures, and grasshoppers pine away on mullen stalks, &c."

It is true, we have no corn cribs *three miles in length*, nor corn fields of thousands of acres. The fertile prairie is not here, nor the deep bottoms of the west. Our corn and grain fields are often but "patches," still, we are not the poorest of the poor. Our labor is not unrewarded, nor our tables scantily spread. The fact is, we have some of the best soils in the country, some that is poor enough, and every variety between. Some of it requires much labor and expense to reclaim and subdue it; but every additional amount of labor, judiciously applied, yields additional product. If nature has been less lavish, industry supplies the deficiencies, so that in

physical comforts, we may challenge comparison with others who boast a richer inheritance.

We have no cause to be ashamed of our productions, that is, those adapted to our climate and soil. Fifty, sixty, and even eighty bushels of corn to the acre, are no very uncommon crops, and in fact, one hundred and thirty-five bushels have been raised! Twenty-five and thirty bushels of wheat are sometimes produced, which is more than thousands of acres in Ohio can boast of, according to her agricultural reports. Nor are our domestic animals of inferior or ugly growth. Our best beef and pork, butter and cheese will disgrace no market. Our best wool is eagerly bought up and manufactured into the finest fabrics; and doubtless some fashionable beau is now arrayed in it, who does not dream that he is indebted for it to a state which he has pronounced too mean to "keep grasshoppers from starvation." The apple and various other fruits find no more genial climate. Nor is our water power elsewhere surpassed on streams of equal size.

It is believed this state is not backward in the improvements that are going on in agriculture. The true principles of farming are becoming more understood and better applied. Old prejudices are giving way, and men are seeking for light. Farming may never be so profitable here as in some other sections; yet we have the foundation for a successful husbandry. We have the rich interval, (bottom,) and the fertile swell; and even our pine plains, which have been considered almost worthless, are found to yield a good return, when subsoiled and manured with ashes and swamp mud. There are farmers in this state, who sell from moderate-sized farms, \$1,000 to \$2,000 worth of produce annually, and have left a supply for home consumption. We have a State Agricultural Society and several flourishing county societies.

I have no wish to boast what the state can do, but am disposed to defend her agricultural character. If we have industry, intelligence, and morality, what have we to fear? There is no necessity of emigrating to a land of unbounded fertility, in order to enjoy the comforts, and even the luxuries of life. One of the pleasures of farming is, to be making constant improvements—to see useful plants taking the place of thistles, brambles, brakes, (ferns,) and other things that incumber the ground. Such improvements are visible on every hand; and if they constitute the pleasure of farming, wherein is the west better than the east? The true improvements cost something here, but the proximity to market and facilities of transportation will reward a liberal outlay. Both sections are wanted for the millions that are to arise and people the land. Let us leave them the inheritance of a country beautified by the hand of industry, furnishing "pleasant places" for happy homes.

The true philosophy of farming, I understand to be, to increase our crops, at the same time that we increase the fertility of the soil. This, I conceive to be the perfection of husbandry, and

what every one should aim at. If we crop our lands without enriching them, we are robbing posterity. The present generation should leave the soil better, instead of worse, than they found it. P.

Milford, N. H., April, 1850.

THE ENGLISH RACE HORSE.

THE English race horse boasts of a pure descent from the Arabian, and under whatever denomination the original stock of our thoroughbred horses have been imported—viz: as Turks, Barbs, or royal mares, there can be no doubt they were selected by the patrons of the turf, and by their agents during the reigns of James I. the two Charleses, James II. and the commonwealth; and whether they were brought from Barbary, Turkey, or the continent of Europe, they were considered as the true sons and daughters of the desert. The first Arabian ever seen in England was imported by Mr. Markham, in the reign of James I., and the first foreign mares of any note were brought over by the agents of Charles II., under the denomination of royal mares. The change of climate, the pasture, and extreme care and attention in breeding by the best stallions, (and never forgetting the maxim that, "From the brave descend the brave,") have wonderfully increased their size, their strength, and their powers of endurance; and it is generally believed, by the most learned men of the turf, that a first-class English race horse would give 84 lbs. to the best Arabian which can be found, for any distance under ten miles. In 1828, a match was made at Calcutta between the English horse Recruit, carrying, 148 lbs., and the best Arab at the time in India, Pyramus, carrying 115 lbs., two miles. Recruit had been a very short time in India, and had tender feet, which disabled him from taking strong work, notwithstanding which, he won in a trot.

The clearest proof of the improvement which has taken place in the English race horse, is the fact that no first nor second cross from the imported Arab, with the exception of the produce of one mare by the Wellesley Arabian, (Fair Ellen,) is good enough to win a £50-plate in the present day; whereas, in 1740, our best horses were the second and third crosses from the original stock; and we have no reason to assume that the Arabian horse of 1850 has degenerated from his ancestor of 1730. The most distinguished progenitors of the English race horse are the Beyerly Turk, the Darley Arabian, Curwen's bay Barb, and the Godolphin Arabian; and no horse of any eminence has appeared in England, in the last hundred years which does not inherit their blood. Of the two former, we know very little; they were the sires of Basto, and of Flying Childers; but the blood of the Godolphin Arabian is in every great stable in England. He was a thick-necked, heavy-shouldered, over-topped horse, without apparently a single good point adapted to racing qualifications. Goldfinder and Eclipse, both foaled in 1764, were considered the most extraordinary horses in the last century—Sir C. Bunbury always asserted that Goldfinder was

the best horse. The celebrity of Eclipse, as a stallion, has contributed to his fame far more than his public running, which only lasted two years. Horses of this era were rarely put into training before they were three years old; some never appeared until five years old; and all the great matches and sweepstakes were made for long distances, four, six, and eight miles. Many writers have, therefore, imagined that the horses, in olden times, were more adapted to stay a distance, than our present breeds; but it does not follow, because it was the fashion to run long distances, in 1750, that the horses of that day had greater powers of endurance. Heavy weights and long courses were in vogue, because it was the custom for owners and amateurs to ride in the last half mile with the leading horses; a feat not very difficult of attainment, considering that the race horses had run four miles before they joined the party. Our experience teaches us that the first cross from the Arab frequently show speed; but there are very few instances of the first or second cross which can run beyond the distance of one mile in good company. I, therefore, suspect that the form of the best race horse, of 1750, is inferior to that of a common plater of the present day.

It is computed that there are upwards of two hundred thorough-bred stallions, and one thousand one hundred brood mares, which produce about eight hundred and thirty foals annually; of these, are generally three in the first class of race horses, seven in second class; and they descend gradually in the scale to the amount of 480, one half of which never catch the judge's eye; the remainder are either not trained or are found unworthy at an early period.

Referring again to shape and condition, a good judge may be deceived as to the individual condition of a particular horse. There are horses which run best apparently lusty, and others are only up to the mark when they carry no flesh, and with very slight muscular developments. There are very few horses which require the same work, the same food, and the same physic. Thick-winded horses, with strong constitutions, may be sweated every five days during their preparation, and will take three times as much work as some delicate mares and geldings, of which there are many that never want a sweat. One horse cannot gallop when the ground is deep; another, with thin feet, cannot move if the ground is hard; and a heavy fall of rain will often upset scientific calculations. Mares seldom run in their best form before the month of August; and geldings are considered to be best in the spring.—*Rous.*

WASTING MANURES.—We once knew a large quantity of night soil deposited on a stiff clay sod. This was gradually washed down by the rains and carried to a rivulet close by. Very little effect was perceptible the first season, and scarcely a vestige of it remained the second; yet there was sufficient ammonia and nitrogen in this heap, had it been rightly managed, to have manured a five-acre field, and produced 200 bushels of wheat.

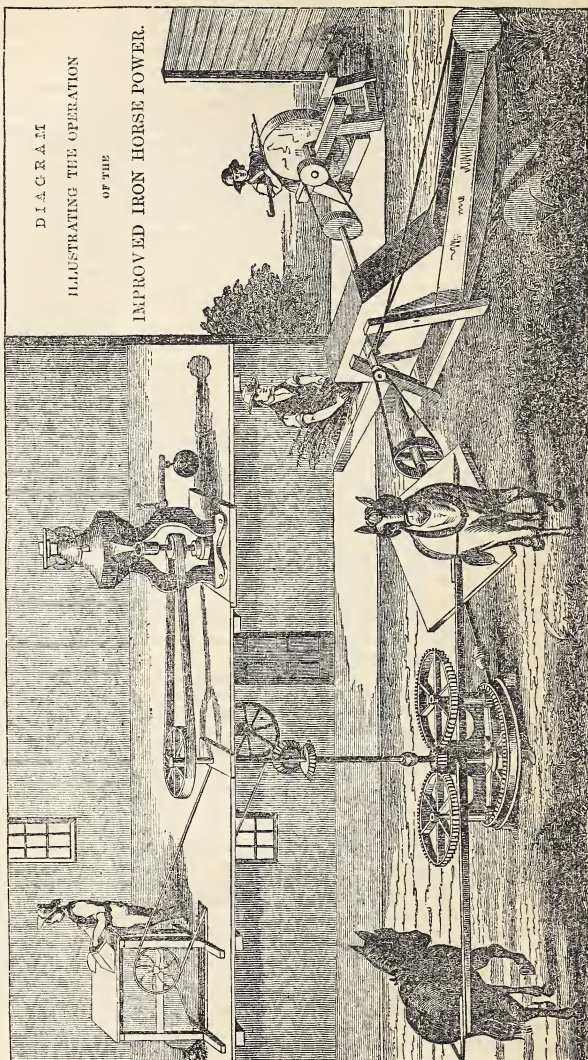
NEW AND HIGHLY-IMPROVED IRON HORSE POWER.

This power is compact, strong, and portable, and without bolts and joints, that are liable to work loose and get out of order. It is made on strictly scientific principles, and is so arranged as to combine the least friction and greatest durability within the smallest compass. Five eights of the machine is firmly connected together, and not weakened by joints, and that on which the power of the horse is exerted constitutes three eights only; thus throwing the force more directly upon the work to be executed, instead of expending it in overcoming friction, produced by complicated wood and iron frame work and cog wheels. In the gearing, great attention has been paid to prevent friction, by placing two pinions opposite each other and to the centre, thus creating a compensating force around the centre of motion, and at the same time preventing wear at the journals and bearings.

The horse power as seen in Fig. 53, will drive the centre, upright shaft 28 revolutions to one of the horse; and from this shaft, a strap is taken which drives a corn mill. On the same floor, a corn sheller is represented in motion, and on the ground floor we have a thresher, separator, and grindstone driven by a shaft geared from the lower end of the upright shaft. This shows that a number of applications can be made from the same machine in one position. If it is required to thresh the grain in the field, it can be done without difficulty, and then replacing the horse power, as shown in the cut, it can be used for shelling corn, ginning cotton, pumping water, sawing firewood, driving lathes, grinding flour, or sawing lumber.

Four-horse powers are made on the same principle as the foregoing, and of an additional

strength, proportioned to the increased power and train. Saw mills are made to accompany, and are driven by this power, which will saw 100 feet of boards, joist, or plank per hour, from logs from one to two and a half feet in diameter.



IMPROVED IRON HORSE POWER.—FIG. 53.

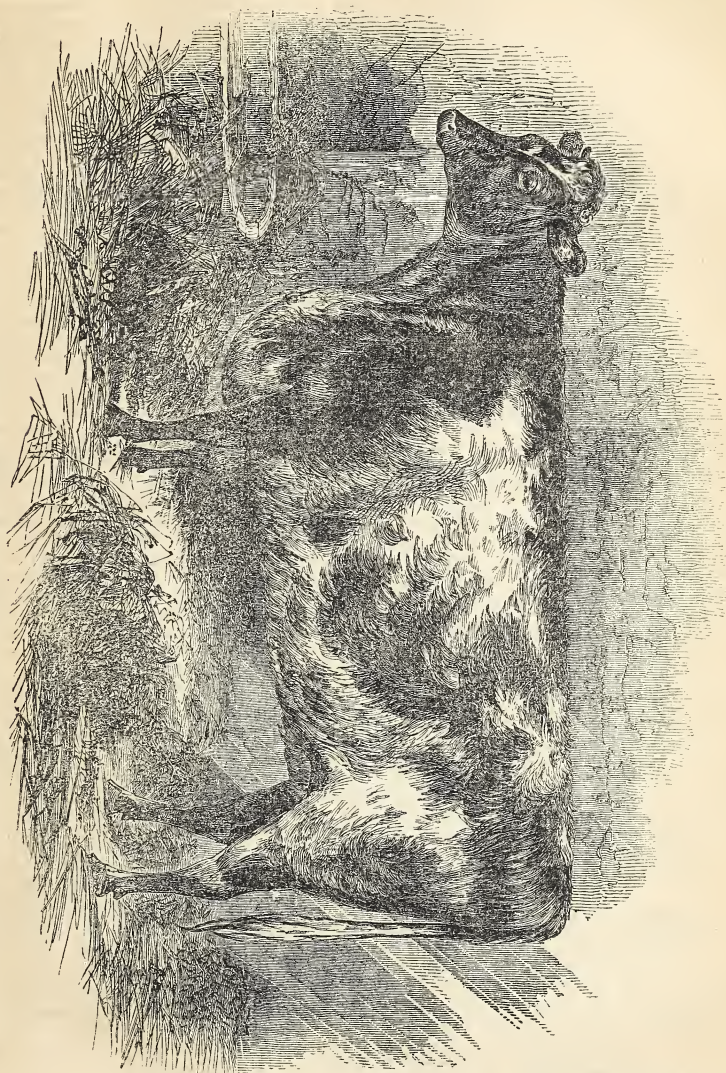
OVERLIMED LANDS.—If a field has received an over dose of lime, add largely of putrescent, fresh vegetable and animal manures, or plow very deeply, or both. Land may thus be readily converted into an abundant and durable store house of fertility.

THE PRINCESS TRIBE OF SHORTHORNS.

Below is the portrait of Princess 3d., taken when eleven months old. It represents her as one of the most perfect of animals. Her brisket

adorn our pages. Although representing an extraordinary animal, it is yet life-like and natural in all its bearings.

Princess 3d. was imported by Mr. A. Stevens,



SHORTHORN HEIFER, PRINCESS 3d.—FIG. 54.

is very extraordinary for an animal of her age, while her other points are uncommonly well developed, and her head, neck, and limbs are extremely fine. As a work of art, we think this one of the best cuts we have ever given to

and was bred by Mr. John Stephenson, of Wolsiton, county of Durham, England, the most celebrated breeder of shorthorns now living. She was got by Napier (6,238)—out of Rose Ann by Bellerophon (3,110)—Rosette by Belve-

dere (1,706)—Red Rose by Waterloo (2,816)—Moss Rose by Baron (58)—Angelina by Phenomenon (491)—Anna Boleyn by Favorite (252)—Princess by Favorite (252)—Brighteyes by Favorite (252)—Brighteyes by Hubback (319)—Brighteyes by Snowdon's bull (612)—Dutchess of Atholl by Mastermann's bull (422)—Beauty by Harrison's bull (292)—Stripes by the Studley bull (626). Tripes was bred in 1748 by Mr. Pickering of Foxton, out of a cow which he bought in 1739, when a calf, of Mr. Stephenson, of Ketton. The female ancestors of Tripes had been bred by, and in, the possession of Mr. Stephenson and his father, back to 1684, in which year Mr. Stephenson of Acklam, Yorkshire, bought his first cow of the Princess tribe from the Aislabie family, of Aislabie, in Durham.

The Aislabie family, with whom the Princess tribe of shorthorns originated, came over to England, from Normandy, with William the Conqueror; and about the year 1300, settled on the banks of the river Tees, in the county of Durham. Soon after this, they commenced cattle breeding, and it is known that their stock was of superior quality as early as 1600—*two hundred and fifty years ago!* Who now will have the hardihood to assert that *thorough-bred* shorthorns are of recent origin?

In the reign of Charles I., the elder branch of the Aislabie family, having by marriage of the heiress, daughter of Sir John Mallorie, become possessed of the beautiful estate of Studley Park, Yorkshire, removed thither, and took part of their cattle with them. In 1684, the younger branch of this family disposed of their estate in Durham, and the residue of their imported stock was then transferred to Studley Park. The same year, but prior to the removal of the cattle, Mr. Stephenson, of Acklam, ancestor of the present Mr. Stephenson, of Wolviston, purchased a cow of Mr. Aislabie, of Durham. Subsequently, he sent his cows to the bulls at Studley Park, and also used bulls in possession of the Pennimans, of Ormsby, who procured their stock of the Aislabies, of Durham, prior to 1684.

About 1700, a Miss Aislabie of Studley Park, married Mr. Milbank of the Barmingham family, of Barmingham, in Yorkshire, and through this marriage, cattle from Studley went to Barmingham. From Barmingham, Mr. Sharter of Chilton, near Ketton, got cows, and hired bulls, and from them bred the celebrated Studley bull (626).

Mr. Pickering lived at Foxton, near Ketton. In 1739, Mr. Stephenson, of Ketton, son of Mr. Stephenson, of Acklam, sold to Mr. Pickering a young cow and her heifer calf, descended on the dam side from the Aislabie tribe of cattle. Mr. Pickering used the Studley bull, and out of the heifer got from Mr. Stephenson, of Ketton, when she became a cow, bred in the year 1748, the cow Tripes. In 1756, Mr. Pickering sold Tripes to Mr. John Hall, of Houghton. Mr. Hall bred Beauty got by Harrison's bull (292)—out of Tripes; and out of Beauty he bred Dutchess of Atholl, got by Masterman's bull (422). Mr. Alexander Hall, on the death of John Hall, his brother, succeeded to his estate; and he bred

Brighteyes by Snowdon's bull (619)—out of Dutchess of Atholl; and out of Brighteyes by Snowdon's bull he bred Brighteyes by Hubback. Brighteyes by Hubback was sold by A. Hall to Robert Colling. Robert Colling bred Brighteyes by Favorite (252)—out of Brighteyes by Hubback, and out of her, Princess by Favorite. Princess was sold by him to Sir Henry Vane Tempest, of Wynyard. Sir Henry bred Anna Boleyn by Favorite (252)—out of Princess; and Angelina by Phenomenon (492)—out of Anna Boleyn. Sir Henry died in 1813, and his widow, the countess of Antrim, bred in 1816, Anna by Lawnsleeves, (365)—out of Angelina. In 1818, she sold Angelina to Mr. John Stephenson, of Wolviston, great, great grandson of Mr. Stephenson, of Acklam. All the sires and dams in the pedigrees of these imported cattle, which were bred by Mr. John Stephenson, occurring after Angelina, were bred by him.

This is the history in brief of this superb tribe of shorthorns. In importing this stock, we think Mr. Stevens has done the country great service. Princess 3d. is to be seen on the farm of Col. J. M. Sherwood, of Auburn, New York, who also possesses several very fine shorthorns of the same blood.

The bull Exeter, advertised at page 200, was imported by Mr. Sheafe, at the same time with Princess 3d.; and by reference to his pedigree, there stated, it will be seen that he is substantially of the same blood. He is the only bull of the Princess tribe of shorthorns ever imported into the United States. We think him as good in all his points for a bull, as Princess 3d. is for a heifer. His color is mostly a yellow-red, which is a bright-red, with a fine golden or saffron undertinge, arising from a rich, yellow skin. His style, handling, and quality are of the finest kind.

NEW WHEAT-DIBBLING ROLLER.

An English friend has described to us an implement which is sometimes used for sowing wheat abroad, and which, in many cases, may be advantageously used in this country. It consists of a cast-iron roller, say 2½ to 3 feet diameter, and of 3 or 4 sections, each 9 inches wide. The outer circumference is made convex, by rising to the centre from each side, forming an angular ridge, four inches higher than the edges. This implement is drawn by one horse across the field, previously prepared by the plow and harrow, and forms a series of elevations and depressions, 9 inches apart, the horse returning in the outside depression which receives the inside elevation of the roller. This throws the whole field into drills of uniform depth and distance. The wheat is then sown broadcast, and the harrow is applied. This combs down the elevations, and leaves all the seed beautifully and regularly planted, just two inches in depth.

LARGEST-SIZED WROUGHT-IRON PLOWS.—Can any of our readers inform us where the largest-sized wrought-iron plow can be procured? We will pay a liberal price for one constructed on good principles.

MR. ROBINSON'S TOUR.—No. 18.

Visit to Jehossee Island—Rice Plantation of Ex-Governor Aikin.—I hope my readers have read with some degree of interest, my account of Col. Carson's rice plantation, in the March number of the *Agriculturist*. The minuteness of that description will enable me to shorten the present one. I left Charleston on the morning of January 25th., which was like a mild summer day in autumn with us, and followed the windings of a crooked, narrow channel, through which small steamboats run towards Savannah by the inside channel to Beaufort. We were several times interrupted by meeting large timber rafts that come down the Edisto River, and through this passage to Charleston, and had to wait till they could be separated, to give us a passage through this fit abode of alligators, that are often to be seen "as thick as three in a bed."

Although my point of destination was only thirty miles direct from the city, I was twelve hours on the passage. This island contains about 3,300 acres, no part of which is over ten or fifteen feet above tide, and not more than 200 to 300 acres but what was subject to overflow until diked out by an amount of labor almost inconceivable to be performed by individual enterprise, when we also take into account the many miles of navigable canals and smaller ditches. There are 1,500 acres of rice lands, divided into convenient compartments for flooding, by substantial banks, and all laid off in beds between ditches 3 feet deep, only 35 feet apart. Part of the land was tide-water marsh, and part of it timber swamp. Besides this, Gov. A. cultivates 500 acres in corn, oats, and potatoes; the balance is gardens, yards, lawns, and in woods, pasture, and unreclaimed swamp. Wood is becoming scarce on the island, so much so, that he drives the steam engine to thresh the crop, by burning straw, which answers a good purpose, but is of doubtful economy; though he intends carefully to save and apply the ashes, which are very abundant, and note the difference in value, between that application and the manure made from the decomposed straw. It is generally calculated that two thirds of the straw will be sufficient fuel to thresh the crop; but Governor Aikin has not found it so. He says there is no more danger of fire in the use of straw than in any other fuel. The flue is carried off fifty or sixty feet along the ground and there rises in a tall stack that *never emits any sparks*. Sugar planters, and all farmers who use steam, may do well to notice this. I recollect Mr. Burgwyn carries his off from his barn in the same way, with the same effect.

Governor Aikin, however, has one improvement that I recollect mentioning to Mr. B., that he would require; that is, a "man hole" into this flue, to enable him to clean out the great accumulation of cinders at the bottom of the stack. In Gov. A.'s, there are two which are closed by iron covers.

The threshing apparatus is a most convenient one. The sheaves are brought from the stacks in the great smooth yard, to a large shed where all the sheltered grain can be saved, and are

there opened and laid on carriers, similar to cane carriers, which carries them up to these machines in the second story, where the grain is separated from the straw, and falls down into winnowing machines, from whence it is removed by hand, (it might be carried by machinery,) to another part of the building over a canal, and is let down into boats to carry about half a mile to the hulling mill, which is exactly like Col. Carson's, and driven by tide. It is carried from the boats to the mill by hand, or rather head, where a little head work of another kind would take it up out of the boat by elevators.

The straw is consumed almost as fast as threshed. And here the saving of labor in getting wood, as well as the saving of labor stacking the straw and hauling manure, must be taken into account, as an offset to the loss of manure in burning the straw.

The rice for seed is always threshed by hand, as experience has taught that the vitality of a considerable portion is injured in the threshing machines. *It is just so with wheat.* [An experienced farmer thinks about one grain in 500 is injured by threshing with machines, and as about 6 per cent. by the last process, there is still a great pecuniary advantage in favor of threshing with a machine.—*Ens.*] The quantity of seed to the acre is 2 to 3 bushels, planted in drills 15 inches apart, opened by trenching plows, and singular as it may sound to some other rice planters, Governor Aikin plows all of the land that will bear a mule or horse, of which he works about forty and twenty oxen.

Corn is generally planted in hills, upon the upland part of the island, which is sandy, 4 by 5 feet, two stalks in a place, and yields an average of 15 bushels per acre. Corn upon the low, or rice land, does not yield well, though it makes very large stalks. With sweet potatoes, on the contrary, the low land produces nearly double, and of better quality, averaging 200 bushels to the acre, and frequently 400 bushels. The average yields of rice is 45 bushels to the acre, and upon one eighty-acre lot the average yield is 64 bushels. The crop upon that lot last year was 5,100 bushels, weighing 234,600, lbs. that is 46 lbs. to the bushel. This made 229 barrels of whole rice, two barrels of middling, and two and a half barrels of small rice, which, at 600 lbs. each, (probably about 20 lbs. below the average,) would make 140,100 lbs. This, at three cents, will give the very snug sum of \$4,203 for the crop of 80 acres.

The average annual sales of the place do not vary materially from \$25,000, and the average annual expenses not far from \$10,000, of which sum \$2,000 is paid the overseer, who is the only white man upon the place, besides the owner, who is always absent during the sickly months of summer. All the engineers, millers, smiths, carpenters, and sailors are black. A vessel belonging to the island goes twice a week to Charleston, and carries a cargo of 100 casks. The last crop was 1,500 casks—the year before, 1,800, and all provisions and grain required, made upon the place. Last year, there was not more than half a supply of provisions.

Like nearly all the "lower-country plantations, the diet of the people is principally vegetable. Those who work "task work" receive as rations, half a bushel of sweet potatoes a-week, or 6 quarts of corn meal or rice, with beef or pork, or mutton occasionally, say two or three meals a-week. As all the tasks are very light, affording them nearly one fourth of the time to raise a crop for themselves, they always have an abundance, and sell a good deal for cash. They also raise pigs and poultry, though seldom for their own eating. They catch a great many fish, oysters, crabs, &c.

The carpenters, millers, &c., who do not have an opportunity of raising a crop for themselves, draw large rations, I think a bushel of corn a week, which gives them a surplus for sale. The children and non-workers are fed on corn bread, hommony, molasses, rice, potatoes, soup, &c.

The number of negroes upon the place is just about 700, occupying 84 double frame houses, each containing two tenements of three rooms to a family, besides the cock loft. Each tenement has its separate door and window and a good brick fireplace, and nearly all have a garden paved in. There are two common hospitals, and a "lying-in hospital," and a very neat, commodious church, which is well filled every Sabbath with an orderly, pious congregation, and service performed by a respectable methodist clergyman, who also performs the baptismal, communion, marriage and burial rites.

There is a small stock of cattle, hogs, and sheep kept upon the place for meat, which are only allowed to come upon the fields in winter, under charge of keepers. The buildings are all of wood, but generally plain, substantial, and good. There is a pretty good supply of tools, carts, boats, &c., and the land is estimated to be worth \$100 an acre for the rice land, which would be

	\$150,000
The 500 acres upland, \$25 per acre,	12,500
The negroes, at \$300 each,	210,000
Stock, tools, and other property, say	7,500
	\$380,000

which will show rather a low rate of interest made from sales of crops, notwithstanding the amount of sales look so large.

Now the owner of all this property lives in a very humble cottage, embowered in dense shrubbery, and making no show, and is, in fact, as a dwelling for a gentleman of wealth, far inferior in point of elegance and convenience, to any negro house upon the place, for the use and comfort of that class of people.

He and his family are as plain and unostentatious in their manners as the house they live in; but they possess, in a most eminent degree, that true politeness and hospitality that will win upon your heart and make you feel at home in their humble cot, in such a manner that you will enjoy a visit there better than in a palace.

Nearly all the land has been reclaimed, and the buildings, except the house, erected new within the twenty years that Governor Aikin has owned the island. I fully believe that he is more concerned to make his people comfortable and happy, than he is to make money.

CHEAP FARMING LANDS IN VIRGINIA.

TAKING into account the fertility and all the conveniences of navigable waters, and the products of the same, which add to the comforts and luxuries of life, and also the mildness of climate, I believe the tide-water region of Virginia offers the cheapest lands, according to their intrinsic value, of any part of the United States. Lands, that, under a moderate state of improvement and cheap system of fertilising by lime, marl, clover, or peas, or by an application of 200 lbs. of guano to the acre, can be made to average at least twelve bushels of wheat, or thirty bushels of corn to the acre; which can be bought at from \$10 to \$30 an acre, with good buildings and fences, within two days' sail of New York, I hold to be very cheap. Thousands of acres of timber land, or "old-field" land, in the same region, can be bought for one to five dollars an acre. I was lately offered a very productive, well-improved farm upon the "Glover Low Grounds," lying upon the navigable waters of the Severn, for \$25 per acre. This farm is all underlaid with rich marl only a few feet from the surface.

The "flat lands" of the Rappahannock are worth from \$10 to \$20 an acre. The "hill lands" or "forest," are worth about half that sum, according to the state of improvement or locality.

As to the quality of the people, it may be gathered in a great degree, from the fact that neither doctor, lawyer, judge, justice, sheriff, clerk, nor constable can live by his profession. In the county of Caroline, with 20,000 inhabitants, for instance, I was told that a suit in court was almost unknown. The sheriff has not had a writ in his hands this year, nor has a suit, either civil or criminal, been instituted in the justice's court.

I do not think that emigrants from any of the northern states have any more to apprehend on account of health, than they would in the west. The condition of agricultural improvement may be imagined, when I tell my readers that nine tenths of the plows used are the old "Freeborn pattern," little one-horse plows, and that land is planted with corn one year, and sowed with wheat and weeds next, and then corn again, without manure, and yet people live, and the land does not become absolutely barren under such an exhausting system. No wonder that land is cheap—for the owners don't know its value. S.

DEEP PLOWING uniformly increases the quantity of grass, grain and root crops. It also tends to consolidate light soils. It has been found that the heads of grain, though much fuller and heavier, stand more upright on such land as has been deeply plowed. This is attributable to the greater strength of the roots, and the much greater depth to which they penetrate, when invited to it by deep, thorough cultivation. Such soils, however, always require for perfecting their pulverisation, and fully developing their tillable qualities, to be well harrowed and rolled.

THE COCONUT OF CEYLON.

THE coconut is very extensively cultivated in Ceylon—indeed, nearly the whole island is encircled with this useful and productive tree, which may be justly designated the *summum bonum* of the native population. The cultivation of it is rapidly increasing; for it is found to be a most valuable and safe investment of property, as it requires a trivial outlay, and little further care than the planting, except protection from cattle during the first two years, thriving as it does most luxuriantly in sandy soil, and bearing fruit in the fifth year. The estimated value of the produce of a single tree is arix dollar per annum.

This tree frequently exceeds 100 feet in height, and there is no part of it which is unproductive to the owner: from the flower he obtains toddy, from which the finest arrack in the world is distilled, and from which is also prepared a coarse-grained, brown sugar, called by the native “jaggery,” and an elegant description of vinegar. The green fruit yields a delicious cooling beverage to the weary traveller, and a vegetable pulp, highly esteemed by the natives; the ripening fruit is also used as food, or oil is extracted from it, which is now manufactured into candles and soap, and the refuse, or oil cake, is used for feeding cattle; while the external husks, after long soaking, are beaten into coir, which is now well known in England, and is used in stuffing mattresses, &c., and from which cordage and matting are manufactured. The leaves, when, interwoven, are called “cajan,” and make excellent thatch, and protection from the sun’s rays, or when burned are converted into an alkali; the young leaves are used by the natives for a variety of useful and ornamental purposes, particularly the latter, on joyous and festive occasions, when bamboo arches are decorated with them, and brooms and mats are made from the young pine. A medicinal oil is extracted from the bark, which the native practitioners use as an efficacious remedy in cutaneous diseases. The root is also used for medicinal purposes, and its elastic fibres are woven into strainers for liquids; while the timber may be used in building, or converted into beautiful articles of furniture. But it would be endless to describe the various additional uses to which every portion of this valuable tree is convertible, which are said to be upwards of 100, and have formed the theme of many native poets. There are annually exported from the colony about £800,000 worth of coconuts, £30,000 worth of coconut oil, £7,000 worth of arrack, and £7,000 worth of coir.—*Bell’s W. Messenger*.

A SCRAP OF AGRICULTURAL HISTORY.

THE settlement of this part of the country was commenced some 70 years ago. The soil, as found by the pioneers, was for the most part poor, being robbed by yearly fires of that which would have made it rich. The farmer, therefore, was poorly paid for his toil. No manure of any kind was used, except the little made in the barnyard.

Some forty years ago, clover and plaster were

introduced, the effects of which were surprising. Barren fields were at once clothed with verdure, and the air filled with the delicious fragrance from land laden with clover. As a consequence, crops of all kinds were greatly increased, and the cultivators were highly elated, supposing that they had at last struck upon the true secret of farming.

The course pursued, was, first to seed down with clover, then pasture for two or three years, and fallow for wheat; next, corn, and lastly, oats, seeding down again. Nobody dreamed that it was possible for the soil to become exhausted under this kind of treatment; but after 25 or 30 years, the farmers began to complain that their clover seed did not come up, and in some instances died after it was up. The soil being defective, was never once thought of as a probable cause. Unsuccessful efforts were made year after year, until the truth was forced upon them that there was an ingredient lost from the soil, necessary to the growth of clover. As a result of this state of things, our crops became light again, and our fields, instead of blooming with clover, were brown with sorrel. Our land became poorer instead of better, until we were forced to abandon the raising of wheat, except on newly-cleared lands or those made rich from the avails of the barnyard.

Some six or seven years ago, one of my neighbors, more enterprising than the rest, made an experiment with lime, upon a small piece of land as poor as could be, in the middle of a large field. A crop was taken from the whole, and an effort made to seed down to clover, and in the month of June, the year following, nothing but a mass of sorrel could be seen, except the small piece limed, which was covered with clover and destitute of sorrel. Other experiments with lime have since been made with the same result. E. A. ATHERTON.

Lackawanna, Pa.

TO MAKE RHUBARB JAM.—Boil gently, for three hours, an equal weight of fine sugar and rhubarb stalk, with the juice and grated rind of a lemon, to each pound of the fruit. When the true flavor of the rhubarb is much liked, the lemon peel should be omitted. A very good jam may be made with six ounces less of sugar to the pound, by boiling the rhubarb gently for an hour before it is added.—*Manchester Receipt*.

A NEW CLOVER FOR THE SOUTH.—The Tallahassee Sentinel speaks of a Chilian clover, sent to Governor Brown, from the patent office, which was carelessly sown three years ago, but which has continued flourishing and prolific ever since. It bears a pale-blue flower, and grows 18 inches high. We hope our friends in that section will watch its character, and hereafter give us a full account of its merits and adaptedness to the south.

TO CURE CHILBLAINS.—Wash the feet with water, saturated with alum, and draw on a sock made of soft, fine, old linen

REVIEW OF THE APRIL NUMBER OF THE AGRICULTURIST.

Manuring Orchards.—Whether this is advisable, or not, depends entirely upon the natural soil and situation. Trees that are forced when young are always tender and short-lived. I agree with the writer entirely in the advice to lay the orchard down in grass, and give the trees a low top. Many persons are continually pruning trees so as to carry up a "round head" high in the air. I would sooner cut off that head, and compel the lower limbs to form the fruit branches. The advice to use ashes, &c., for orchard manures, I approve of; but not whitewash. Take my advice, and you never will whitewash a fruit tree. Use strong ley of wood ashes, and you will get all the advantages, and none of the injuries of whitewash.

Juvenile Vagrancy and Crime—Their Remedy.—If you have "full confidence in our ability to regenerate the world," it is more than I have; and unless a speedy remedy is found for the evils of this dreadful disease of vagrancy, we shall soon be past regenerating ourselves. I admire the philanthropy of the heart that dictated the plan of redemption detailed in the article under consideration; but I am constrained to say, that it can better be carried into effect in the state of Utopia, than in the state of New York. I hope no one will be tempted into so wild a scheme as to spend his money to buy a farm to reclaim these vagrants upon, by the system detailed in this article. [But it has been done in France, good sir; then why not in the United States? We have more faith than you seem to profess, in this matter. Give us "your own plan, certain, speedy, and Christian, in five words."—Eds.] I would sooner think of reclaiming a swamp, by "moral suasion" to the bull frogs to eat up the mud, and thereby give me a dry soil to cultivate.

New Mode of Ventilation.—"Very important if true," might have been added. The insertion of the elbow pipe in the chimney may answer a good purpose in assisting the draft of the chimney. Those having smoky ones may do well to try it, it looks reasonable. So does the plan of ventilating a room, if the air current will set outward instead of inward, which I think will depend much upon the rarity of that in the room, as compared with that outside. Important as it may be to greenhouses, I hope no one will be green enough to incur great expense in this new mode of ventilation until he has proved it is not itself rather green.

Qualities of Lime, &c.—Notwithstanding I was much interested in reading this generally good article, I was disappointed that no opinion was given on the question stated—"Which is the most useful for the field, oystershell or mineral lime?" And also, "Is not magnesian lime always injurious?" [Both questions are answered in the whole article, to the very careful reader.—Eds.] The merely giving the constituents of limestone and shells, does not answer the question, to common minds. By some, it is stoutly contended that shell lime is superior to any other; yet why should it be superior to lime made from stone, composed of almost the same

substances as the shells? If the shells were ground into powder, as is now practised in some parts of the country, the result from the use would be different. Lime burned from magnesian limestone is considered by many persons vastly superior to any other; while others contend for exactly the contrary effect. Both are in some measure true. It is owing to different qualities of soil.

"Lime is a direct food for plants." This is a rock that has wrecked many a tyro in its use. Believing it to be a direct food for plants, they have given them no other; and depending upon the lime alone, has injured instead of benefiting their land. Lime must have dead vegetable matter to work upon, or it will use up the living plants.

"The effect of lime is not perceptible in the soil the first season it is applied." What? Not when wheat crops have been more than doubled by one dressing of fifty bushels to the acre, sowed and harrowed in with the wheat? If "not perceptible in the soil," it is in the crop. [Lime may, under a few peculiar circumstances be decidedly beneficial the first year, but that is a result seldom perceived. By sowing early in fall, with wheat, its effect may be felt the following year before the wheat is matured.—Eds.]

Combined Wire and Picket Fence.—It strikes me that this is a very excellent invention. If it can be made in ten-foot pannels, with hooks at the ends to attach them together, so as to set it up zig-zag, without posts, or only supported by stakes driven in the ground, it will make a very good kind of hurdle fence, lighter and easier moved than the "ladder fence," and more durable, I should think. But for this, the base board must be dispensed with, and if it were not for the heathenish American custom of letting those filthy brutes, the hogs, run in the streets, it might always be dispensed with. It is some consolation to think that no fully-civilised human being will suffer his hogs to run at large, and as the world becomes civilised, this heathenish custom will cease to exist.

Removal of Slaughter Houses from Cities.—"When shall we have this reform so much and so long needed?" Not so long as we have leading politicians pandering to the base passions of butchers, and all their dependants who have a vote to give to sustain such politicians in power; and who cry out whenever such a reform is spoken of, that it is the rich trying to oppress the poor by driving them from the city, under the pretence that slaughter houses are unhealthy, when, in fact, it is nothing but an effort of these "purse-proud aristocrats," to get them out of the city, so as to get rid of that class of people that are more offensive to their noses than the smell of putrid blood and stinking offal. Slaughter houses, distilleries, tanneries soap factories, and some other city nuisances belong to by-gone ages, and it is an evidence of a great want of refinement in any city, to permit them to exist within their limits in this railroad-moving, and cholera-breeding age. So hit 'em again, and I will lend you a hand with my harpoon whenever you are likely to be run down.

The Potato Curculio.—Here is a most valuable

and learned article, upon a subject well worthy the attention of all scientific agriculturists, which shows that it flows from a well-informed mind, that has made the subject treated of, a study of careful attention. No doubt from the pen of some professor, or scientific gentleman, says the reader, perhaps. And yet, I say, if I am not much mistaken, this valuable article is from the pen of a lady. Not from one of that numerous class of wise farmers, who "don't know as your paper is of any use to them, as they do not reckon they could learn anything new in an agricultural paper."

Roads.—How is this? Do you seriously propose to combat the old and firmly-established notion of straight roads. Up hill or down, through swamps or fields, no matter where—the road must be *straight*. This is the modern American science of laying out roads. And you might as well try to move the mountains over which they climb, as to move the fixed opinion in favor of the direct line over the hill, instead of the equally short one on a level round it. I have read of the "emigrating hords of rats," that they never turn aside for any obstacle; and I have seen the same thing illustrated by the squirrels in Ohio. During their great emigrations, they will climb over all obstacles or swim ponds, rather than go around; and it always seemed to me that those who make and travel roads in this country, are possessed of the same blind faculty of seeing nothing but what is directly before them. You may keep on driving at this species of insanity, and I will always be ready to lend you a hand, and let us see if we cannot wake up enough good sense in men, until they are as willing to go around the hill as over it.

Improved Shorthorns.—Bates' Stock.—To nine tenths of your readers, this article is as uninteresting as would be a pedigree of Noah's stock printed in Greek, or Pottawatomie. As I go distinctly against all "bull fights," I shall rank this one between your two correspondents in the same category of those more bloody ones I have seen at the "Plaza de Toros," in Spain. I am sorry that you should so far cater to the taste of the baiters, as to furnish them the ground on which to make such an uninteresting exhibition, which, unlike baiting in the ring, we may see or let alone. You compel us here, in looking over the pages of our favorite journal, to take a look at it. As I see we are threatened with another exhibition, I wish to enter my protest to show non-assent," and to assure you that I shall "take the bull by the horns," if thrust at us again, I hope this will be the last bull fight in the Agriculturist. [We cannot agree with our correspondent here, for pedigrees are of great importance.—Eus.]

Guano vs. Worn-out Land.—There might be thousands of equally strong statements made of the value of guano, and yet people would say they could not afford to buy it, it is so dear. The value of this guano, if applied to small grain, and followed by clover, would be far greater than is shown by this statement, for the advantage to the clover and succeeding crop

of corn would be more than appears to this crop.

The Best Rotation of Crops.—Perhaps it is presumptuous in such a young farmer as I am to dispute anything advanced by so old a one as Judge Beatty; yet if I differ in opinion from him I shall venture to state it. First, then, I do not think the cultivation of a variety of crops requires more fencing, if the most profitable and judicious system of fencing were once adopted, and that is, *no* fencing upon strictly grain or hemp farms, as I think his is; though I am aware that he keeps considerable stock, particularly sheep, but these are mostly kept in permanent pastures; and all the advantage that he derives from pasturage of his fields after divested of the crops, will not pay for keeping up fences. He charges upon wheat that it is "a very exhausting crop." Now I venture to say that if Judge Beatty had taken any one of his fields, the soil of which is limestone clay, and sowed it in wheat the first crop that he ever planted upon "Prospect Hill," and continued it in wheat and clover alternate years ever since, which is a period of near fifty years, giving back to the land the straw only, that the last crop would have been as good as the first. It is not the wheat crop that is so exhausting, it is the manner of treating the land. "The corn should be plowed deep," is another point that we shall differ upon. I think corn land should be plowed deep, I don't care how deep, if it is two feet all the better, but never plowed deep while the crop is growing.

Valuable Breed of Fowls.—Whether *fowl* or *fair*, if you have got anything *new*, do send them to Boston. No matter whether their legs are blue or green, you will find somebody there *green* enough to grab at them.

Georgia Farming.—I differ somewhat from the opinion of Mr. Moore, (who, if I mistake not, is an old acquaintance of mine,) about oak leaves for manure. If spread at the rate of 100 cart loads to the acre, with fifty bushels of lime, I think he would see a great benefit.

American Wine.—I never shall be able to endorse the quality, until my worthy old friend Longworth sends me a dozen or so down to the "Valley." I think if I should call to mind a few of the scenes of our youth, that he would not only send it, but come and help drink it.

Guano.—I commend this article to the attention of every person about to purchase, and then let him be sure he gets the genuine article, be careful from whom he buys, or he may buy "a pig in the poke."

The Farm of L. M. Stevens, Norwalk, Connecticut.—This is coming too near home for me to venture to say much, lest I should betray myself. I am truly glad to see this farm described, not only for the benefit of Mr. Robinson, but to encourage others to "go and do likewise." I know this farm well in Auld Lang Syne, and I can truly say, that I was highly delighted when visiting it a short time ago, to see the great improvements which Mr. Stevens has made there.

Poultry Inquiries.—Will any other domestic animals succeed so well in large flocks or herds

as small ones? I think not. Poultry never thrive so well in any other situation, as in the forest. Some of the new settlers in Ohio, living in a log cabin in the woods, have been more successful in raising poultry than the most careful and costly breeders. If hens are confined in a yard, the earth should be often dug up, and they should be fed with meat, or else they cannot lay eggs. I have seen chickens in a coop upon a long voyage eat one another.

Agricultural Geology, No. 2.—Better and better, I cannot commend these articles too highly. Yet I wish to inquire, (as seems to be stated in this article,) whether all the earth was once rock, and that all the soft soil has been disintegrated from a solid substance, by the slow action now at work leveling the mountains? If you please, Dr. Antisell, explain this matter a little more fully.

Amount of Food Raised on an Acre.—Wonderful as this calculation may seem to those who have never reflected upon the subject, it is even excelled by some other articles of human food. Certainly by turnips, beets, pumpkins, and apples. Then what vast amounts of human food are sometimes taken at a single draught of the net, from the sea. I have seen 3,000 shad taken at once, when a boy—enough to give a man a shad a day for eight years, and leave him eighty over, to treat his friends. Truly, upon reflection, it is not wonderful that so large a portion of mankind are like "the lilies of the field."

Cultivation of the Sweet Potato.—A practical article from a practical man. Irish potatoes, (I hate that appellation—why not call them American potatoes,) can be sprouted and planted in the same way when seed is scarce.

The Forest Scenery of California.—Rather more interesting than anything else from the same source, that I have seen for a long time.

REVIEWER.

QUANTITY OF AMMONIA IN BONES.—There is about 33 per cent. of animal matter in fresh, dry bones, consisting principally of gelatine, with some fatty matter. Gelatine yields nearly 17 per cent. of nitrogen. We shall thus find, after all deductions, that we have from three to four or five pounds of ammonia, slowly evolved by decomposition, for every bushel of bones we put upon the soil. This accounts, in part, for the valuable effects from the application of bones.

When bones are first burned, only a minute portion of ammonia will be added to the soil from their application, the nitrogen and hydrogen forming it, being exceedingly volatile, and both being driven off in their calcination.

THUNDER STORMS.—When overtaken, out of doors, by a thunder storm, never resort to a tree for shelter; better take a wet skin and a safe retreat to the open field. Do not have any metal, nor metallic implements about you while exposed to electricity. Col. Wade Hampton informs us, he once lost a valuable field hand, who was struck down while retreating from a

thunder shower, with a hoe carried perpendicularly on the head—a negro accomplishment quite prized by the victim. Col. H. said he resuscitated two or three others when stricken down, by throwing cold water over them.

A bright pitchfork, spade, or manure fork carried tine upwards is certain to attract electricity during a thunder storm.

GLASS MILK PANS.

The superiority of glass milk pans over all others, so far as the preservation of milk and the facility of keeping them clean are concerned, is unquestionable; but whether they will prove the most economical in the end, will depend entirely upon the care with which they are used, and the accidents that may befall them. Metallic pans are liable to oxidate or rust, and consequently are more difficult to keep clean; wooden ones absorb the milk, which soon turns sour, and require frequent scalding to keep them sweet; and earthen ones are more objectionable than any other from their weight, liability to break, and the destructive or deleterious qualities of their glazing.



GLASS MILK PAN.—FIG. 55.

Glass milk pans can be furnished of very convenient form or size, with or without covers, for about 20 cents per pound, say from 75 cents to \$1 each.

COMPOSITION OF GUANO.—The fresh dung of the sea eagle, from which guano is made, in part, was analysed by Coindet, and found to contain of uric acid, 84.65; ammonia, 9.21; phosphate of lime, 6.13. This proportion of uric acid gives 28.3 of nitrogen, equivalent to 36.3 of ammonia, or 42.43, altogether a composition of astonishing richness, and of great benefit for land when thus applied. Its place, however, is fully supplied by the guano, which is the same, and similar manures, from which large proportions of the ammonia-forming materials have been lost by passing off into the air, and by this very operation, too, augmenting the proportion of the phosphates, (the mineral, non-evanescent portions,) which are equally important to vegetation.

SEEDS taken from a warm, dry climate have been found most productive when used for a change. This will account for the want of success in American farming, from most of the choice specimens of seed wheat and oats brought to this country, from the cool, moist climate of Great Britain.

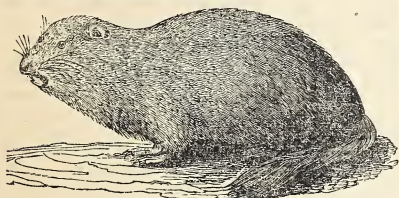
The cheapest labor is one's own. The best is just like it, for it is what is done by ourselves.

THE WOODCHUCK.

THE woodchuck, (*Arctomys monax*), ground hog, or Maryland marmot, all of which names it is more or less known by, or some nearly-allied species, is found, as far as we have been able to ascertain, in all the temperate parts of the continent, from New Brunswick, in the British Possessions, to Carolina, throughout the Atlantic states; from Texas, along the eastern range of the Rocky Mountains to Hudson's Bay; and west of the mountains from California to Oregon. In some localities, it appears to select white-pine forests for its abode, while in others, it seems to prefer rocky pastures or cleared lands, along sunny slopes in front of stone walls.

These animals form long, deep burrows in the earth, into which they fly during summer upon the least alarm. In these excavations, they take good care to make themselves soft beds of dried grass, in which, in autumn, after they close the mouths of their burrows, they roll themselves up into mis-shapen balls, and there lie dormant until spring, without food, when they are generally very fat.

According to Audubon, in the month of May, or sometimes in June, the female brings forth her young, generally four or five in number, but sometimes seven or eight. When captured at an early stage of their growth, they may be fed on cabbage, or other garden vegetables, pumpkins, green corn, &c., and become quite tame, hibernating during winter precisely in the same manner as in a state of nature.



THE WOODCHUCK.—FIG. 56.

The natural food of these animals consists of green clover and other tender grasses, potatoes, pumpkins, apples, and other succulent vegetables and fruits, of which they devour vast quantities, and so far are considered injurious to the farmer.

"On being surprised or pursued," says Audubon, "this species runs very fast for some eight or ten yards, and then frequently stops short, and squats down close to the ground, watching to see if it has been observed; and will allow you to approach within a few feet, when it starts suddenly again, and again squats down as before. Not unfrequently, under these circumstances, it puts its head under the dry leaves, or amid tufts of grass, to conceal itself from the pursuer. You may then generally capture or kill it with a stick."

These animals bite severely, and defend themselves fiercely, and when unable to escape, sit up upon their haunches, snap their teeth, and will turn and make battle with a dog of

more than double their own size. When near their burrows, however, they never stop to fight, but retreat with all possible dispatch.

THE SUBSOIL.

MANY persons have experienced disease and destruction, in their crops, when oft recurring on long-cultivated fields. The application of various specific manures and different modes of cultivation, are not always effectual remedies. May not the cause be generally attributed to the want of fresh earth, and a wider range for the roots of the plants? Though these are difficulties seldom occurring in this comparatively young country, they are often to be contended with in Europe, and may ere long become of serious consideration among us.

A certain remedy for these evils is *deep tillage*, by which, small portions of the subsoil are brought near the surface, and add new and necessary aliment to the crop. There is no danger from this operation, if it be not brought up in too large quantities. If there be any inert or noxious matter in it, as a stiff, or poor, intractable clay, an excess of iron, and especially in that form in which it frequently occurs in an acid soil, the *protoxide* of iron, or if there be undecomposed peat, and the like, add lime, ashes, and warming animal manures, and mix the matters thoroughly with the surface, by harrowing, and you will thereby not only secure a healthy soil, but a prolific one.

An unmatched system of cultivation, to remedy these and numerous other difficulties, is the use of the subsoil plow, which gradually, year by year, amalgamates the upper and subsoils; and while it is giving health and vigor to the surface, it is ameliorating and improving the lower soil and speedily fitting this also for the great purposes of ministering to vegetable nutrition.

In illustration of this principle, it may be stated, that the inhabitants of the island of Madeira sometimes trench their land to a depth of five or six feet, to get at the fresh earth, for the health of their grape vines, for which they would otherwise be obliged to send to Europe, at great expense to renew.

SPAYING HEIFERS AND MILCH COWS.

This is an operation sometimes practised by intelligent farmers, when they wish to make beef or working animals of the former, or to produce the flow of milk from the latter, and at the same time enrich its quality. Sound philosophy and profitable results sanction this practice. There is a periodical tendency or inclination of the female to perpetuate her kind, which occasions a serious interruption to her economical habits, and is decidedly injurious for any other purpose than that designed by nature in continuing her race.

Where calves are not required, and the heifer is wanted for work and beef only, the spaying should be done before she has been suffered to take the bull. By this operation, she will be better fitted for the yoke or shambles, weight for weight, than the ox. If intended for milk,

she should be allowed to attain the fullest development of her milking apparatus, milk veins, udder, &c., which does not occur till she has had her second or third calf. She will then, if spayed in the proper time and manner, and if properly fed, milked, and managed afterwards, continue to yield milk for years; and when it is advisable to withdraw her from the dairy, she will fatten readily, economically, and give a better quality of carcass, when dressed.

We should be glad to receive any information on this subject from practical men, who are familiar with the subject. The information will be valuable for our agricultural readers.



ANIMAL AND VEGETABLE MANURES—CHARCOAL—UNDERDRAINING.

MANURE, made from a compost where fish or flesh is the fertilising basis, has ever been found to be greatly exhausted the first season after applied to a growing crop. This is in perfect accordance with the principles of animal chemistry, as that nitrogen which supports living flesh, also hastens decomposition in the dead animal, until it is dissolved and dissipated into its original elements, so that the three summer months give sufficient heat and moisture to decompose thoroughly any animal substance. On the other hand, manure composed of animal excrements, hay, straw, or other refuse vegetable matter, is of much slower decomposition; hence its favorable effects may be noticed in several succeeding crops.

From close observation of the operations of nature, in her constant endeavors to fructify and reproduce, I have noticed that the seeds contained in stable manure, were continually sprouting into plants of considerable root; thus organising the escaping ammonia and carbonic acid, not taken up by the roots of the growing crop. These young plants, or weeds, when plowed or hoed under the surface, commence another decomposition; so that what would be wasted in the air, if no other vegetable life were present but that of the growing crop, is now organised and saved up for another season. Many farmers advocate the practice of summer fallow, on the ground that it destroys weeds; there man's economy comes strangely in conflict with nature, as her constant efforts are to cover all the waste places with organised plants, that nothing be lost which can add to the ultimate growth of the vegetable kingdom. If, in England, this plan of killing weeds by summer fallow, instead of by weeding and hoeing, were pursued, the average yield of wheat there, instead of being sixty bushels to the acre, would not probably exceed the average yield in this state, which is less than fifteen bushels. If a farmer would sow rye, or some other seed, between the hills of his corn, immediately after he has worked the soil for the last time, a fine, vegetable matting would cover the whole surface immediately after the corn is removed. This vegetable growth, plowed under the next spring, would almost supercede the necessity of any other application of manure. Wheat, I am told, has often been sowed in this way at the

west, for a crop; but such an experiment is only advisable in that loose, rich, virgin soil peculiar to new farms, which requires little or no plowing. Yet, some of the best pieces of wheat I ever saw, whose plants grew so strong and healthily as to distance every enemy, was sowed after corn with only one plowing.

Charcoal.—I have seen ground where a coal pit was burned, continue without other manure to yield a much better vegetable growth than the rest of the field, for twelve or fifteen years in succession. Now, I take it, the charcoal gave up in its slow decomposition its potash and inorganic elements to the growing plants, while that part which still retained its mechanical structure, absorbed carbonic acid, and ammonia from the atmosphere, which were in like manner given up to the roots of plants. There are thousands of bushels of ground charcoal used by distillers and rectifiers in the city of New York alone. At Buffalo, thousands of bushels of the same article, after being saturated with the essential oil of distilled spirits, are thrown away as useless; all of which might be transported any distance on our canals, at very small expense, as leached ashes are purchased along the line of the Erie Canal, to transport to Long Island for manure. It strikes me that ground charcoal might be made still more profitable. In a compost heap, with menhaden fish, it must needs be invaluable.

Underdraining.—If subsoil plowing in a heavy, undrained soil is useless, it is almost certain that thorough underdraining, will enable us to dispense with subsoil plowing. Those who are disposed to deny this, let them go and examine the underdrained fields of John Johnson, in West Fayette, near Seneca Lake. All the ameliorating effects which are claimed for subsoil plowing are there produced by sinking tile drains from two and a half to three feet in depth. When this business of underdraining becomes general, the surface of land necessary to supply a family with its vegetable products will be small indeed.

CON AMORE.

Waterloo, N. Y.

Ladies' Department.

YAUPON TEA.

"What sort of tea did you say, sir?" Yaupon tea, ma'am. I cannot give you the exact orthography of the word. It may be yopon, yawpon, yuopon, or yoopon, as I have never seen it written, and it sounds from the mouth of different individuals, like each of the above words.

"Well, never mind how it's spelled, but do tell us what it is like, and where it is used, and where it comes from, and all about it."

Yes ma'am, and so I might as well begin at the beginning. Tradition says it was first discovered upon the desert coast of Virginia, south of the Chesapeake Bay, or upon the equally desolate shore of North Carolina, and for a long time was only known to one family of Indians, who used to prepare it, and sell it to the early

settlers of that country. It now grows abundantly, both wild and cultivated, in all that region and among the primitive inhabitants is almost exclusively used instead of coffee or "store tea." The shrub somewhat resembles the box, is evergreen, of rather a pale color, grows ten or fifteen feet high, and is most natural to a poor sandy soil, or rather land without soil; that is, all sand. The bark, leaves, and twigs are all made use of; but I believe the young shoots are preferred. For winter use, they are gathered in the fall and laid in a trough, chopped up somewhat fine, and then put into an iron pot which is carefully heated, to wilt the leaves; then the whole is packed away in earthen jars, or dried, and is made by infusion in the ordinary way of making "Hyson," "Sou-chong," "Oolong," or any other *ong*, and makes quite as good a drink as one half of the China teas in the country.

Great faith is placed in the medicinal qualities of yaupon tea, by the people of the country where it grows. It is related of a North-Carolina gentleman, who once had a very bad cold, while at the Astor House, in New York, and called for some yaupon tea, and on the waiter expressing some doubts about being able to find the article, as he had never heard of it before, he thought him very ignorant and wondered where he came from not to know what yaupon tea was, as he had seen it and smelt it upon the table every day since he had been there; having mistaken the black tea for the real "native American" article. Certain it is, that it is a tea very much esteemed by a great many people, and it is worthy of inquiry whether it is not deserving a more extended cultivation, and more general use. I am told that in Princess-Anne county, Virginia, a little patch of yaupon shrubs may be seen attached to nearly every house, and that hundreds of persons there never tasted of any other tea, and that hundreds of others who have tried the "boughten stuff," prefer the domestic article. I was assured by my informant that one gentleman lost the vote of the county in consequence of a story raised by his opponent, that he did not like yaupon tea, and ridiculed the use of it, and if elected, would probably go against levying a duty on foreign tea, for the benefit of the yaupon manufacturer.

To save my popularity, I therefore speak publicly of the goodness of yaupon, and that it is undoubtedly better than half the *green* tea imported into this country. And I candidly recommend its increased cultivation. It would at least afford something new, and that is more than we can depend upon when we buy a new tea with some heretofore unheard-of name.

Ladies, when shall I have the pleasure of a cup of "yaupon" with you, raised in your own garden, and cured with your own hands?

SOLON.

REMARKS ON DIET.

WHILE travelling on a steamboat from the city of P., I was thrown in company with a lady who was taking a very pale, sickly little girl to

the country, for the benefit of her health. She was much troubled with disordered stomach and bowels. In conversation with the lady on the subject, I inquired regarding the child's diet. "O," says she, "it results from no fault in diet, I assure you, for she is never allowed to eat a particle of fruit nor vegetables, and she has always been subject to such turns." I told her the results were what I should expect from such prohibitions; and directed her attention to a child then present, whose food consisted of the products of the field, garden, and dairy, exclusively; who scarcely ever had a bowel complaint. I argued that gross and highly concentrated diet frequently caused inaction and diseased action of the bowels, in turn, while the freedom and regularity of function produced by fruits and vegetables, prevent the accumulation of morbidiferous matter in the system, which causes disease. The mischief, however, does not always terminate in the bowels; but whatever organ is the weakest will suffer most. But flesh is thought by some, to be necessary to support the strength of the system.

It has been argued that carnivorous animals are the strongest. But are they? The lion may outdo the camel in a single effort; but can he endure the continued exertion of the latter, for an equal length of time, with as little sustenance? A flesh diet, too, directs an undue proportion of nervous energy to the base of the brain, thus robbing the intellect, and higher feelings of their natural stimulus. I do not mean to say that all should at once abandon animal food, but I do mean that we are quite too carnivorous for the best interests of body or mind.

Important as is the kind of food, the quantity is of still greater importance. An Englishman on returning home from a visit to America, being asked what he thought of the Yankees, replied; "Their men are all gluttons, and their women all slaves," nowise complementary to either sex; but is there not much truth in what he said?

The theory and practice of Dr. Cheyne was, "The lightest and least of meats and drinks a person can be tolerable easy under, is the shortest and most infallible means to preserve life, health, and serenity." Those who feel an indisposition to take physical or mental exercise, immediately after meals, have eaten too much, and are exhausting, through their stomachs, energy due to the brain and muscles, and the power of the former is diminished by being overtasked. Hence, the greatest eaters are often thin in flesh, receiving less nourishment from a large quantity of food, than the vigorous digestive powers of moderate eaters extract from a much smaller amount. When any extraordinary effort is to be made, physically or mentally, the best preparation is rigid abstemiousness. Let those who would possess sound minds, in sound bodies, and attain the greatest degree of intellectual power and moral excellence, of which they are susceptible, keep a guard over appetite, and pursue their onward course with minds untrammelled and spirits free. AMANDA.

Foreign Agricultural News.

By the steamer *Hibernia*, we are in receipt of our foreign journals to 4th of May.

MARKETS.—*Ashes*, in steady demand. *Cotton*, an advance of $\frac{1}{4}$ d. to $\frac{1}{2}$ d. per lb., with large sales. *Wheat* and *Beef*, a slight improvement in most other American products a trifling reduction.

Professorship of Culture in the Garden of Plants at Paris.—M. Decaisne has been recommended as the successor, in this important chair, of M. de Mirbel, who has resigned in consequence of illness and age.

Glass for Conservatories.—Rolled, rough, plate glass is coming into general use, in England, for conservatory roofs, much exposed to the sun, as a preventive of burning. Its excellence has now become a matter of certainty.

To Cultivate Canary Seed.—Sow ten pounds per acre, in rows a foot apart, on a clay loam, in October, and treat the growing crop exactly as you treat wheat.

—*Agricultural Gazette.*

Glaze for Muslin.—Three pints of old pale linseed oil; sugar of lead, one ounce; and white resin four ounces. The sugar of lead must be ground with a small quantity of the oil, and added to the remainder, incorporated with the resin by means of a gentle heat. Lay it on the muslin with a brush. One coat annually, is sufficient.—*Gardeners' Chronicle.*

New Invention.—A portable instrument has lately been invented and brought into use, in England, for fumigating greenhouses, stoves, and frames, or shrubs and flowers in the open air, without injuring the most delicate plants; delivering the smoke cool, in a dense mass and effecting a great saving of tobacco.

Covering for Gravel Walks.—Decomposed sandstone is an excellent covering for walks, in order to bind any loose material of which they may be formed. Soon after its application, the surface becomes perfectly smooth, and almost as firm as a flag. The walks may be swept during wet weather, nearly as well as when it is dry.—*Gardeners' Chronicle.*

Death of Professor Kunth.—The foreign papers announce the death of this learned botanist, at Berlin, on the 22d of March. He was well known as the colleague of Baron Humboldt and M. Bonpland in the preparation of the great work on the new plants discovered by them in Equinoctial America; and latterly, for a useful enumeration of all known plants, of which, however, only a few volumes have appeared.

Salt and Lime.—Slack lime with brine, in some sheltered place, and apply 50 or 60 bushels per acre some months or so hence. Your best plan will be to do all this in midsummer, so as to be ready to apply it on the stubble in autumn.—*Agricultural Gazette.*

To Raise Turnips.—Pare and burn. Spread the ashes. Plow 3 inches deep, roll, harrow, and harrow again. When that plowing is reduced to a tilth, cross plow at double the depth, and repeat the tillage. Sow 3 cwt. superphosphate of lime, broadcast, drill up in rows, 26 inches apart, and sow 3 lbs. of seed on the tops of the drills. Sow 3 or 4 lbs. per acre, in rows 2 feet or more apart, and single out to 10 or 12 inches.—*Ibid.*

Tanners' Bark as a Manure.—This, in its manufacturing state, is unfit for cultivators to use; but when exhausted of its tannin, and allowed to decay, it ceases to be "tanners' bark," and becomes, like all other decaying vegetable substances, valuable to the cultivator in proportion to its degree of decay. The worst way of using it is to burn it to ashes; the best way is to char it. Whether charred or merely decayed, it should be mixed with putrifying matters, such as the contents of cesspools, or rotten dung, and also earth or any other

common material, *except lime*. It then becomes one of the most valuable of all manures.—*Agricultural Gaz.*

The Best Mode of Mixing Salt with Lime.—Lay three inches of unslacked lime, ten feet long and six wide, as a bed, and then spread one inch thick of common salt. Repeat these layers till a bed two feet high is formed. If the mixture is made in summer, when it is dry, it may be in the open air; at other times, under cover. After ten days, turn it over, and repeat the turnings five or six times, at intervals of seven days; spread from a cart about 60 bushels per acre, covering the horse with a sheet or cloth, to prevent burning the hair off. It should be plowed in before wheat sowing.—*Hillyard's Practical Farming.*

Seed Oats.—Oats intended for seed should not be allowed to be too ripe before cutting, as considerable loss is sustained in all the various processes of manufactures, and if sown upon damp soils, and uncongenial climates, are apt to burst, especially if the seed has been grown in the neighborhood of the seaboard. Another reason why they should not be too ripe, is their aptitude to "sheel," by the powerful machines so generally used for threshing.—*North-British Agriculturist.*

Spent Tanners' Bark a good Manure for Strawberries.—Perhaps the following experiment with strawberries in tan, near Edinburgh, may prove useful. The soil was very light, and appeared unfit for their growth, yet finer fruit, or of better flavor I have seldom seen. This was entirely owing to a covering of old tanners' bark, about an inch thick, being applied between the rows. The bark not only kept the ground moist and the fruit clean, but it is the material of all others in which this plant most delights. Many persons may have remarked how almost all plants, but particularly the strawberry, will root into the old tan of a bed in which they have been forced, and yet, because they know new tan will kill weeds, they do not think it valuable as a manure. In the same garden were beds of strawberries, which had not been covered, but after growing and flowering well, these bore no fruit worth gathering (a very common thing if the soil is too light); others were almost burnt up, whilst those to which the tan had been applied were luxuriant, and the ground was covered with fine runners, fit to plant out, though the fruit was just in perfection.—*Gardeners' Chronicle.*

Green Vegetable Manure.—This has been used for upwards of 2,000 years, and in countries where the art of culture has been most attended to. Various crops have been sown with no other view than to be buried in when fully grown, to render the soil fit for crops of more importance. Every species of vegetable, in a green state, acts more or less as fertilisers, some probably more than others, according to their power of draining organic matter from the air, and inorganic from the subsoil. It is, therefore, no detriment to the soil to be covered with weeds, providing they are not allowed to seed, and that they be dug into the ground instead of being hoed down and raked off, which latter process is a direct robbery of the soil. Green vegetable manure is most effective on light, sandy soils, and least so on peaty lands. It is surprising how much valuable manure is wasted in gardens, by carrying it to the compost heap, instead of at once burying it in the soil; and how much is lost or neglected in woods and waste places, from mere indolence, or from want of knowing that rampant nettles and rank-growing plants, constitute a great amount of the food of plants. Tree leaves, and the mowings of lawns are valuable manures, and far too seldom turned to useful account. For using green vegetable manure, it should be applied as soon as possible after it is cut.—*North-British Agriculturist.*

Editors' Table.

SALE OF SHORTHORNS.—We understand that Mr. Vail, of Troy, has recently made a sale of five head of shorthorn cattle, to Mr. Belknap, of Michigan. The bull is called American Comet, and was got by Meteor, out of his imported cow, Hilpa. Mr. Vail has also just sold a young shorthorn bull and heifer to Mr. O. A. Brewster, President of the New-Hampshire State Agricultural Society. Col. J. M. Sherwood, of Auburn, has also sold Mr. Belknap a three-year-old heifer, called LaBelle, got by Archer, and in calf to his recently imported bull, Duke of Cambridge, bred by the late Mr. Bates, of Kirkclevington, Yorkshire. For all these animals, good prices were obtained; and in noticing these sales, it affords us pleasure to add that the demand for well-bred stock is greatly on the increase, and we trust that judicious breeders will soon find themselves better remunerated than heretofore. We received and executed more orders for imported stock, last year, than for any succeeding three years since 1844.

SCYTHE RIFLES.—We beg to call the attention of our readers to the advertisement on page 200, of Clark's celebrated Quinebaug scythe rifles. They are far superior to any others now in use for setting a good edge.

FAT CATTLE.—A yoke of oxen, fattened by J. L. Mosier, of Naples, Ontario county, drew a crowd this morning. They are the largest animals we ever saw. The railroad freight bill rates them at over 6,300 lbs! One of them girths 10 feet 6 inches, and the other 10 feet. They are five years old, and are destined to gratify the palates of the New-Yorkers.—*Albany Evening Journal*.

OLD LEATHER FOR MANURE.—Whoever rode through any country village or large town in America, a few years ago, could not have failed to notice piles of old shoes, heel taps, strings, and bits of leather, of every hue and description, forming a very gradually decaying mass, which in the course of 20 to 30 years, might probably reach that state of decomposition that would entitle it to the distinction of a tolerable manure. In the mean time, a small patch of ground attached to the house and workshop, that furnished these sweepings, and the few fruit trees surrounding it, were absolutely starving for want of food, which might have been profusely afforded, by converting this unsightly heap into manure, by mixing it with quicklime, strong ley, or sulphuric acid, and transferring these ornaments of the road to the vegetables and foliage of the garden.

PROTECTION OF SMALL, HARMLESS BIRDS.—The Legislature of New Jersey, at their last session, passed an act for the protection of the following-named birds, and their eggs, imposing a penalty of five dollars on every one known to kill or destroy them, except on their own premises:—Night or Mosquito Hawk; Chimney Swallow; Barn Swallow; Martin; or Swift; Whip-poor-will; Cuckoo; King Bird; or Bee Martin; Woodpecker; Chaipe; or High Hole; Cat Bird; Wren; Blue Bird; Meadow Lark; Brown Thrasher; Dove; Fire Bird; or Summer Red Bird; Hanging Bird; Ground Robin; or Chewink; Boblink; or Rice Bird; Robin; Snow or Chipping Bird; Sparrow; Carolina Lit; Warbler; Bat; Black Bird; Blue Jay; and the small Owl.

Will some intelligent member of the New-Jersey Legislature favor us with a communication, stating the particular reasons for protecting each of the above-named birds, with the names under which they are usually described by ornithologists.

AN ESSAY ON CLIMATE, by H. J. Ehlers. This is a neat pamphlet sent us by the author. It represents

some new views on the causes of variation in the temperature of the eastern and western continents. After a good deal of ingenious illustration and argument, the author arrives at the conclusion "that neither the supposed protection of the old world by mountains, nor the masses of ice in the north of America, nor the lakes, nor the swamps, nor the woods of this country, nor the sandy deserts of Asia and Africa, *can, in the least, produce the existing difference in the climate of the two continents.* We, therefore, behold in *subterranean heat, the only and universal cause of this difference, and look upon the above-mentioned local causes as being only retroactive to this universal cause."*

LONG-ISLAND LANDS.—We would call the attention of northern farmers, mechanics, tradesmen and others in this city, who wish to change their residence, to the advertisement of Dr. Peck, on page 199, who offers for sale a large tract of cheap land on Long Island. For its fine climate, susceptibility of improvement, and nearness to market, as well as the facility of reaching New York, by railroad, we refer the reader to the back volumes of this journal.

THE CUREULIO.—A friend attributes the loss of many of the apples in Worcester county, Mass., to the presence of the cureulio, and says a neighbor has conclusive proofs of their agency in the destruction of the apples. Have any one of our readers any testimony on this head? If so, they will oblige us, and the public by communicating it. Mr. Tudor, of Nahant, caught immense quantities of the cureulio, last season, by suspending in the branches of the trees, large-mouthed vials or jars, partially filled with honey, or molasses and water. They were attracted by the sweet liquid, as flies frequently are. So many were destroyed in this way, that he secured a tolerable crop of fruit.

THE QUADRUPEDS OF NORTH AMERICA, by Messrs. Audubon & Bachman. No. 4 of this no less beautiful than useful work is now issued. It contains the Canada lynx, a ferocious looking monster enough; a group of cat squirrels, gamboling on the dead limbs of a mossy old tree; a pair of marsh hares couching slyly amid tall grass and aquatic plants; soft-haired squirrels on a scrub oak, their cheeks bursting with a store of acorns, which they are providently bearing to their winter quarters; last, and also *least*, the pretty little ground squirrel—one sitting upon an oblong hillock as demure as a cat in consultation, while the other is seemingly starting off at a wild bound, in quest of adventures. The scenery introduced into these plates is well done, and harmonises pleasingly with the character of the animals. We look over every number of this admirable work with intense delight, for it invariably carries us back to our boyish days. When wandering over wild hills and down dales, and across soft meadows, we often encountered many of these animals, which the pencil of Audubon so naturally presents, in his moving, breathing pages.

BUIST'S FAMILY KITCHEN GARDEN.—The best work on the subject extant. A new edition just published by C. M. Saxton and E. Blanchard, 120 Fulton street, New York. See advertisement, on page 199.

A SOFT ANSWER TURNETH AWAY WRATH.—The horse of a pious man in Massachusetts happening to stray into the road, a neighbor of the man who owned the horse, put him into the pound. Meeting the owner soon after, he told him what he had done, and added, "If I ever catch him in the road hereafter, I'll do so again." "Neighbor," replied the other, "not long since I looked out of my window in the night, and saw your cattle in my mowing grounds. I drove them out and shut them in your yard; I'll do it again!" Struck with the reply, the man liberated the horse from the pound, and paid the charges.

Review of the Market.

PRICES CURRENT IN NEW YORK, MAY 18, 1850.

ASHES, Pot.	100 lbs.	\$5.50	@	\$5.56
Pearl.	" do.	5.62	"	5.69
BALE ROPE.	" lb.	9	"	11
BARK, Quercitron.	" ton.	39.00	"	41.00
BEANS, White.	" bushel.	75	"	1.25
BEESEWAX, American, Yellow.	" lb.	20	"	26
BOLT ROPE.	" "	10	"	11
BONES, Ground.	" bushel.	45	"	55
BRISTLES, American.	" lb.	25	"	65
BUTTER, Table.	" "	15	"	25
Shipping.	" "	"	"	15
CANDLES, Mearns, Tallow.	" "	10	"	13
Sperm.	" "	25	"	47
Stearine.	" "	25	"	30
CHEESE.	" "	5	"	10
COAL, Anthracite.	2,000 lbs.	5.00	"	6.00
CORDAGE, American.	" lb.	11	"	13
COTTON.	" lb.	10	"	15
COTTON BAGGING, Am. hemp.	" yard.	30	"	16
FEATHERS.	" lb.	30	"	40
FLAX, American.	" "	8	"	9
FLOUR, Ordinary.	" bbl.	4.25	"	5.25
Fancy.	" "	5.50	"	6.50
Richmond City Mills.	" "	6.50	"	6.75
Buckwheat.	" "	—	"	—
Rye.	" "	2.75	"	3.00
GRAIN—Wheat, Western.	" bushel.	95	"	1.36
" Red and Mixed.	" "	80	"	1.15
Rye.	" "	52	"	60
Corn, Northern.	" "	60	"	64
" Southern.	" "	59	"	63
Barley.	" "	60	"	65
Oats.	" "	40	"	47
GUANO, Peruvian.	2,000 lbs.	45.00	"	50.00
Patagonian.	" do.	34.00	"	35.00
HAY, in Bales.	" 100 lbs.	50	"	63
HEMP, Russia, Clean.	" ton.	215.00	"	220.00
American, Water-rotted.	" "	160.00	"	200.00
" Dew-rotted.	" "	140.00	"	175.00
HIDES, Dry Southern.	" "	9	"	10½
HOPS.	" lb.	6	"	18
HORNS.	" 100.	2.00	"	10.00
LEAD, Pig.	" 100 lbs.	5.00	"	5.13
Pipes for Pumps, &c.	" lb.	5	"	7
MEAL, Corn.	" bbl.	2.75	"	3.35
" Corn.	" bbl.	14.00	"	14.25
MOLASSES, New-Orleans.	" gallon.	22	"	26
MUSTARD, American.	" lb.	7	"	10
NAVAL STORES—Tar.	" bbl.	1.50	"	1.75
Pitch.	" "	1.25	"	1.75
Rosin.	" "	1.00	"	1.20
Turpentine.	" "	2.44	"	2.75
Spirits of Turpentine.	" gallon.	32	"	34
OIL, Linseed, American.	" "	73	"	75
Castor.	" "	2.00	"	2.25
Lard.	" "	60	"	70
OIL CAKE.	" 100 lbs.	1.25	"	1.50
PEAS, Field.	" bushel.	75	"	1.35
Black-Eyed.	" 2	1.75	"	2.00
PLASTER OF PARIS.	" ton.	2.00	"	2.75
Ground, in barrels of 300 lbs.	" "	1.12	"	1.25
PROVISIONS—Beef, Mess.	" bbl.	8.50	"	11.00
" Prime.	" "	5.25	"	8.00
" Smoked.	" lb.	6	"	12
" Rounds, in Pickle.	" "	4	"	6
Pork, Mess.	" bbl.	10.00	"	12.00
" Prime.	" "	6.50	"	10.00
Lard.	" lb.	6	"	7
Bacon Sides, Smoked.	" "	3	"	4½
" in Pickle.	" "	3	"	4
Hams, Smoked.	" "	5	"	9
" Pickled.	" "	4	"	7
Shoulders, Smoked.	" "	4	"	6
" Pickled.	" "	3	"	5
RICE.	" 100 lbs.	2.25	"	3.62
SALT.	" sack.	95	"	2.00
" Common.	" bushel.	20	"	35
SEEDS—Clover.	" lb.	6	"	9
Timothy.	" bushel.	2.00	"	3.50
Flax, Clean.	" "	1.60	"	1.65
" Rough.	" "	1.50	"	1.60
SODA, Ash, (20 per cent. soda).	" lb.	3	"	—
Sulphate Soda, Ground.	" "	1	"	—
SUGAR, New-Orleans.	" "	4	"	6
SUMACH, American.	" ton.	35.00	"	37.00
TALLOW.	" lb.	7	"	8
TOBACCO.	" "	3	"	11
WHISKEY, American.	" gallon.	23	"	25
WOOLS, Saxony.	" lb.	40	"	60
Merino.	" "	35	"	40
Grade Merino.	" "	30	"	35
Common.	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,500 Beeves, (1,300 southern, the remainder from this state and the east,) 120 Cows and Calves, and 2,600 Sheep and Lambs.

Beef Cattle.—An abundant supply, sales varying from \$6 to \$8.50 per hundred. Market firm—none left over.

Cows and Calves.—The sales of these have been active, the supply having hardly met the demands. The prices varied from \$22 to 42.50. None left over.

Sheep and Lambs.—The prices of these continue firm, varying from \$2 to \$6. Left unsold, 150. May 13.

REMARKS.—Seeds being out of season are low and depressed. Flour is a little better than at our last.

The Weather still continues cool, and crops and planting thus far very backward. Cotton is as unpromising as last year, and the prospects respecting it thus far are gloomy enough. Fruit is uncommonly promising.

To CORRESPONDENTS.—Communications have been received from S. P. Chapman, Long-Island Subscriber, Buffalo, E. H. Brown, Paris M. Walker, E. Hammond, H. B. R., Urbane B. Oglesby, M. W. Phillips, and Luke Derwin.

ACKNOWLEDGEMENTS.—Transactions of the Trumbull-County, (Ohio), Agricultural Society, at the Fourth Annual Meeting, held at Warren, on the 25th, 26th, and 27th of September, 1849, with the Address of Professor Samuel St. John; Report of the York-County, (New Brunswick), General Agricultural Society for the year 1849; Proceedings of the American Association for the Advancement of Science, for 1849.

IMPROVED STOCK.—Durham, Herford, and Devon Cattle; Saxon, Merino, Cotswold, Leicester and South-Down Sheep; Lincolnshire, Suffolk, and Chinese Pigs. All these superior breeds, can be had of the subscriber, of the best quality, and will be shipped to any part of the country

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COTTON, HAY, AND OIL PRESSES, of the best kinds, ready for use, packed and delivered, for the following prices:—

Cotton Press, to pack 300 lbs.	\$85.
" " " 400 "	\$110.
" " " 500 "	\$135.
Hay Press, to pack 100 "	\$60.
" " " 150 "	\$70.
" " " 200 "	\$80.
" " " 300 "	\$105.
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ALLEN'S IMPROVED PORTABLE RAIL-Road Horse Power, Thresher, and Separator.—The advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply constructed, not liable to get out of order, and move with little friction.

The Overshot Threshers consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a separator high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power.	\$80
" " Thresher.	\$28
" Separator and fixtures.	\$7
" Bands for driving, etc.	\$5
" Wood-sawing machine, complete, and in running order.	\$35
Price of Double Power.	\$100
" with Thresher, Separator, &c.	\$150

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This article, made from night soil, into a light, dry, and inodorous powder, is the cheapest and most powerful manure in the world for corn or tobacco. Two barrels, (\$3 worth) will manure an acre of corn in the hill, and will bring a heavier crop than can be obtained in any other way.

A pamphlet containing instructions for use, certificates from some of the first agriculturists in the United States, and much valuable information will be sent gratis, to any one applying, (post-paid if by letter,) to "The Lodi Manufacturing Co., 66 Dey street, New York." Also for sale by A. B. Allen & Co., 191 Water street. apr 3t

ANALYSIS OF SOILS.—Dr. Antisell has removed his laboratory to 35 City-Hall Place, where he continues to carry on analyses of Soils, Manures, and other Agricultural Substances, and to give certificates on all sizes and thicknesses. For \$5 A class is formed for instruction in chemistry, and mode of conducting analyses. There is a vacancy for a few pupils. Terms \$15 for three months.

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One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Konkong Pond, or Lake, one of the most beautiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

Persons settling here, have all the advantages of growth and rise of property of a new country, with all the privileges of an old-settled country, as by a ride of three to five miles, churches and schools of various denominations may be found, of more than 100 years' standing. Title perfect, and will be sold on advantageous terms, and at a low price.

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Miner's American Bee Keeper's Manual, price \$1, cloth—75 cents in paper covers; being a Practical Treatise on the History and Domestic Economy of the Honey Bee, embracing a full illustration of the whole subject, with the most approved methods of managing this insect, through every branch of its culture, the result of many years' experience. Illustrated with three hundred accurate figures.

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Buist's Family Kitchen Gardener, containing plain and accurate descriptions of all the different species and varieties of culinary vegetables, with their Botanical, English, French and German names, alphabetically arranged, and the best mode of cultivating them in the garden or under glass; with a description of implements, and medicinal herbs in general use.

Also, descriptions and characters of the most select fruits, their management, propagation, &c., illustrated with 25 engravings.—By Robert Buist, author of the *American Flower Garden Directory*, *Rose Manual*, &c. Price 75 cents; mail edition 50 cents. Just published by C. M. SAXTON, 120 Fulton st., up stairs.

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GREAT SALE OF SHORTHORN CATTLE.

The subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Dutchess Co., New York, about 35 head of Shorthorn cattle, including cows, heifers, and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it one of the *very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 20 quarts per day and made 15 lbs. 3 oz. of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, which will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Shorthorns—was calved in June 1848, and bred by Sir John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238)—out of Jessamine, by Commodore (3,452)—Flora, by Belvedere, (1,706)—Jessey, by Belvedere, (1,706)—Cherry by Waterloo, (2,816), &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first-rate judge of shorthorn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow-red, which is a bright-red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull* of this *peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees without any alloy or Galloway blood, back to pure shorthorns, for upwards of two hundred years; a matter of no small consideration to those who wish a *superior fresh cross*. Catalogues of the above stock, with pedigrees in full, are now ready for distribution.

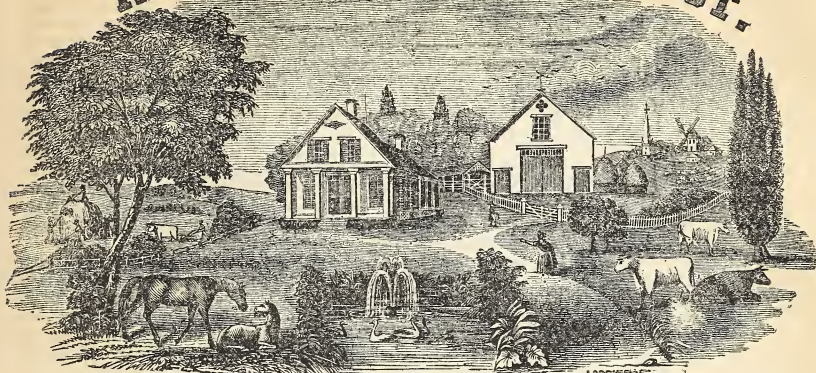
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Suffolk Swine.—One boar and several breeding sows and pigs, of this fine breed of swine.

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AMERICAN AGRICULTURIST.



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BENEFIT OF GUANO.

I HAVE gathered a great amount of information in my travels, upon this subject, some of which will be useful to your readers.

I presume no part of the United States can show a more marked benefit from the use of this best and cheapest of all fertilisers in the world, than the northern neck of Virginia; as in no part, with which I am acquainted, has it been so extensively used, and likely to be continued to be used, upon the next wheat crop, as here.

Mr. Willoughby Newton is entitled to the credit of having first introduced it into that section, and he now says that he looks upon it as an interposition of Providence, to save the country from total ruin, as most of the land had become so utterly exhausted as not to be worth cultivating, and nearly all the ridge or "Forest land," as it is termed, had been abandoned as worthless, and suffered to grow up to old-field pines, which in time were cut down and burnt, and the land planted, and after bringing two or three miserable crops, suffered to grow up again. The soil is generally a sandy loam, based on a reddish-yellow clay, and in many places by shallow plowing and bad management, very much washed and its native fertility wasted.

Mr. Newton's first experiment was upon such land, so "deadly poor" that it had long been considered useless to try to raise wheat, rye, or oats upon it, and it only afforded a very scanty crop of "poverty" or "hen grass." In 1846, he purchased a ton of Ichabo guano, about equal to half a ton of Peruvian, and put it upon eight acres, plowed in, upon which he sowed eight bushels of wheat, amid the jeers of some, and doubts of all his neighbors, that he never would see his seed returned to him in the crop. Even his negroes thought "massa hab done gone crazy sure, to tink he raise wheat on dat land, caze he put few pinch of snuff on him." The result, however, was 88 bushels, and a good stand of clover.

In 1847, Mr. N. purchased \$100 worth of Patagonian guano, and used it upon equally poor land, and obtained 330 bushels good wheat, when he certainly could not possibly have made 100 bushels without guano, by the best manuring he would have been able to give it. In 1848, he used \$200 worth of Patagonian and Chilian, at \$40 per ton for one, and \$30 for the other, and made 540 bushels of such fine wheat that it sold readily, for seed, at \$1.25 per bushel. As these experiments were so very satisfactory upon the light lands, he wished to try what benefit guano would be to soil of a different character. He therefore selected ten acres upon one of his Potomac farms, of a cold white clay, and applied one ton of Peruvian guano, which cost \$50. His overseer declared "that stuff" never would make wheat and he would beat it upon the next ten acres, which to do, he dressed with lime, and plowed finely, and put in the wheat as well as he knew how. Finding in the spring, that the guanoed wheat was getting ahead, he gave his ten acres a good top-dressing

of manure. The result was 55 bushels for the limed and manured lot, while the guanoed lot gave 135 bushels of a much better quality, which also sold at \$1.25 per bushel, for seed. Here was a clear gain of \$63.75 upon an outlay of \$50, in one crop, ready money, besides the advantage to the land of getting a good growth of clover. In 1849, he used ten tons of Peruvian guano at \$47, and ten tons of Patagonian, at \$30, upon 260 acres of wheat, at the rate of 75 to 250 lbs. guano to the acre, and the result now, (May 3d, 1850,) is so promising, that he has bought 30 tons of Peruvian, intending hereafter, to use no other kind, as the wheat now growing side by side, upon which the two kinds were applied, at equal cost, shows very largely in favor of the Peruvian.

Upon one acre of sandy loam, in 1847, Mr. N. used one barrel of African guano, cost \$4, and sowed one bushel Zimmerman wheat, and reaped 17. He also used a barrel of "fertiliser," last fall, at the rate of \$12 an acre, along side of guano, at \$4 an acre. The present appearance of the crop is in exact inverse proportion.

It is the concurrent opinion of Mr. N., and others who have used it most, that an application of 200 pounds per acre, plowed in deep, [How "deep?" It will not do so well to plow guano in what we call "deep," in a northern climate.—Eds.,] and wheat sowed late, say last of October or first of November, is the most economical application, and that it will give an average increase of twelve bushels to the acre, for one of seed, upon poor land, and give a good stand of clover, that when turned in will give as good a crop as the first.

The land upon which the above-named crops were made cost \$4 an acre. Five miles from navigation, such land can be bought for less money.

Wm. D. Nelson, of Westmoreland county, Virginia, a near neighbor of Mr. Newton, bought the land upon which he now lives, two years ago, at \$1,600 for 400 acres. Three fourths of it was grown up in pines, and the balance, not paying interest of money in rent. The place was notoriously poor. It has a very different aspect now. Fine fields of wheat, knee high this backward spring, on the 1st of May, and most luxuriant clover, plainly tell what has been the renovating agent under a judicious management, to effect this great change. He used 200 pounds of Peruvian guano, and made 12 bushels wheat to one sowed, to the acre; and 200 lbs. Patagonian, and made 10 bushels to one. Upon eleven acres used 2,200 lbs., and 11 bushels seed, and made 150 bushels of wheat. Upon 36 acres and 36 bushels seed, on the same kind of land that had been manured well in previous corn crop, but not guanoed, made 152 bushels. The contrast now, between wheat that was guanoed and that without, is equal to the difference between the green grass upon the wayside, and the bare beaten track. He plows in all his guano. Has bought ten tons Peruvian for 1850.

Dr. F. Fairfax, of King-George county, Virginia, commenced the use of guano, in 1847,

next year after Mr. Newton, on the northern neck, upon a piece of land so deadly poor that it would not produce any kind of grain enough to pay for planting; soil, clayey loam, hill land. His first experiment was with 400 lbs. to the acre, of African guano, that proved one third water, upon 27 acres, sowed with three bushels to an acre, and made $12\frac{1}{2}$ bushels, and upon another field from 8 to 18 bushels to the acre, and guano fully paid for in the improvement of the land by clover, which he sows with wheat, in September. The clover grows luxuriantly where none would grow without guano, and his wheat now, (May 1,) is knee high, and will ripen by 15th June, and bids fair to make 1,000 bushels where 150 could not have been made without guano, or 25 bushels to the acre. On some kinds of land on next farm, the wheat is barely perceptible at a little distance. Upon another farm where the land is richer, the contrast is not so great, but the doctor thinks will be equally profitable, and that it always will be found profitable upon land that would be benefited by manure. He has bought 15 tons Peruvian guano for the next crop.

Mr. W. Roy Mason put 300 lbs. of African guano at a cost of \$4.50 upon what he says was the poorest acre of land in King-George county, Virginia, and I can bring a host of witnesses to prove that that is poor enough, and got 12 bushels good wheat, and a stand of clover worth more than the guano cost. He has made other experiments so satisfactory that he has bought six tons of Peruvian for future ones.

Mr. C. Turner, of King-George county, tried five experiments with guano.

1st. Plowed in 250 lbs. 7 inches deep on corn land, and harrowed in wheat, and sowed one bushel plaster to acre on surface of part.

2d. After the land was plowed, mixed guano, wheat, and plaster, and sowed and harrowed.

3d. Land plowed, and wheat, guano, and plaster sowed and plowed in 2 or 3 inches deep.

4th. Guano and plaster plowed in five inches and wheat harrowed in.

The quantity and quality all equal. The present appearance, (April 26th,) is decidedly in favor of the first part of first experiment.

From all that I can learn, I am convinced that the best application that can be made is 200 lbs. Peruvian guano to the acre, plowed in deep, [How "deep," one inch, five, ten or twenty?—Ebs.] and that it is the most beneficial upon sandy loam, and pays the greatest profit upon lands so worn out as to be absolutely worthless for cultivation.

Col. Robert W. Carter, of Sabine Hall, Richmond county, Virginia, a gentleman noted as one of the most improving agriculturist upon the northern neck, after thoroughly testing the various manures in various ways, has become so thoroughly convinced of its value, and the bad economy of ever sowing wheat without using it, has ordered 40 tons of Peruvian guano for his fall seeding of 1850. He plows it in deep.

No part of the United States is using guano to the extent it will be used next fall, in this part of Virginia. I have notes of a great many other

experiments, and shall continue to take others for publication for the encouragement of any who may be timid about buying this most wonderful and most profitable fertiliser. R.

NEW WAY OF RAISING PIGS.

Mr. Wm. H. Roy, one of the most intelligent farmers of Mathews county, Virginia, has adopted the plan of separating the sow from the pigs and suckling them at stated times just as is common with calves. When the pigs are one day old, it is very easy to turn the sow out and leave the pigs in the pen. The sow is turned in at night and out in the morning, and also at noon, during the infancy of the pigs. By this plan, they can be the better fed than when together.

It is needless to say that the kind kept by Mr. Roy are worth taking this little trouble with. They are Berkshire and grazier. He says that both sows and pigs do enough better to pay all trouble.

Dr. Mallory, of Hampton, Virginia, has a new way of keeping both pigs and negroes honest and out of mischief. He gives each man and woman two, and each working boy one pig in the spring of the year, and requires them to shut them in pens, each one's pigs by themselves and to keep them well furnished with materials to make manure. To each of these pigs is dealt out a daily ration of two ears of corn, until "roasting ear time," and the owners are allowed to feed them all they will eat until killing time. The pork is then equally divided between master and servant who sells his part for cash. The doctor believes the manure is worth as much as the corn fed during summer; and there is another advantage connected with the plan—the negro is not tempted to steal corn, perhaps, from the horses, to feed his pig, and besides, it is contrary to negro nature to run away and leave a fat pig.

TO DESTROY WILD ONIONS.—A correspondent complains of his farm being much infested with wild onions, and asks how they can be destroyed. The most effectual way we have yet tried is, to feed the tops off early in the spring with sheep. As soon as this is done, remove the sheep from the pasture, and when the onion tops spring up again, turn the sheep on a second time, and so keep repeating till the onions are killed, which is usually the first season. Sheep are very fond of the tops of wild onions, and as they are usually six inches high, in this climate, by the middle of April, it has been suggested that they would be well worth cultivating for early sheep pasture. We cannot agree with this opinion, and much prefer wheat or rye; for they are as early in the spring as wild onion tops, and are far more nutritious.

PASTURE LANDS.—When fields that have laid in pasture two years have been subjected to the plow, the yield from the subsequent crop has been found to be one fifth more productive than land similarly situated, from which the grass had been mowed the first year, although pastured the second.

THE HORSES OF SIBERIA.

THERE are two distinct races of horses in Siberia—the Mogul or indigenous race, and the race imported by conquerors. In the former category, there are many, those especially which are used in rural labors through the country, and in teams among the towns, whose breed, by dint of good feeding and careful training, has considerably improved, and which have acquired, in size and strength, what they may have lost in speed and liveliness. By far the greatest portion, however, of the horses which Siberia boasts of, are contributed by the Steppe, from its own pure Mogul race. These are ugly, of small size, of uncouth make, their coats curiously colored, their heads as huge as in the days of Zenghis Khan, the heads of their progenitors, long and pendant, and their ears shaggy. On the other hand, however, they are of fiery mettle and extraordinary swiftness. Left in an entirely savage state, untended or unvexed, they wander in thousands, guided by their stallions, over the whole face of Siberia, and particularly over the Steppe of Barabinsk, which is the prolongation of the Kirghish Steppes, and which is appropriated pre-eminently to the rearing of horses. While summer lasts, their pastures afford them a plentiful forage; but in winter, they are reduced to the withered herbs, which sparingly dot the soil, and which they are often driven, under the guidance of their instinct, to disinter from depths of snow.

In so vast a region as Siberia, where, for want of canals, railways, or steamboats, the horse is the only available medium of locomotion, the inhabitants have very naturally bestowed an anxious degree of attention upon the rearing of the equine race. And as the immense deserts which separate the inhabited localities turn every removal, however trivial, into a long expedition, the grand object has been to impart to their horses the utmost possible hardihood and capacity for bearing fatigue, privation, and the inclemency of the seasons—in a word, to impart to them the vigor necessary for those rapid and flying journeys in which all Russians delight. The results which the Siberians have attained in these matters are incredible. It is not uncommon to see their teams accomplish a distance of 200 versts unchanged; and such is the acquired abstemiousness of their horses, that they often remain for forty-eight consecutive hours under the yoke *without being once baited with feed or drink*.

These extraordinary local severances, indeed, have reacted on the manners of the inhabitants, and have originated very peculiar customs. In the north of Russia—thanks to the daring temperament which is one of the characteristics of the nation—the people's classic equipage of the *Troik*, has from time immemorial served for picturesque contests, in which the drivers of the rapid vehicle which is seen scouring the streets of the capital in every direction strive to surpass each other in dexterity, and in the prompt agility of their horses. In the south, on the contrary, the manners of the Cossacks, a race essentially equestrian, have made the saddle, not the droschky cushion, the universal conveyance. Siberia,

being compounded in its population of these two types of the Russian race, has become, by pre-eminence, the scene of these tournaments, which enjoy for a race course a flat country of many thousands of square miles in extent. Every moment you behold along the high roads heavy trains, (called caravans,) of travelling carriages, whirled on at the utmost speed of their teams, and contending one with another in pace, precisely as if it were a real race by the stop watch. Indeed, in the very language of the people, the word *to race*, has supplanted the term *to go*. You are not told that *such a one has gone this way*, but *such a one has raced this way*. Each village and each town has its own horse races, which are made the occasion of considerable bets among the inhabitants, and have acquired the importance of national festivals.

The preparatory training of the horses is very rigorous, and never lasts less than a fortnight. The whole of this period is spent in starving the animals, in order to give them greater lightness and spirit, in bathing them continually, and in exposing them now to the frosts of winter, and again to the heat of vapor baths. In the preparatory races, they appear enveloped in felt coverings. Entirely deprived of food on the eve of the race, the horses are led into the arena feverish with impatience and hunger, neighing long neighs, plunging with eagerness, and their grooms have the greatest difficulty in holding them in at the starting post. When the jockeys mount, they are careful to turn their coursers' heads the way directly opposite to the true direction, and facing the barriers. Without this precaution, no power on earth could make the steeds await the signal. The aboriginal natives of these countries evince rare skill in breaking the wild horse. They throw themselves on his back without saddle or bridle, and bit him at the very height of his fury, after having first grasped his ears. The Tcherkissies of Irkousk have a different method. They first bit the horse which is to be broken, and then, while helpers hold the animal, and by means of long chords, prevent his throwing himself down. In spite of his plunges, the rider mounts, his feet being bare, and he himself armed with a Cossack whip. By this method, it is easy to master a horse in the course of two or three days at most. In the chase after wild horses, a peculiar breed of horses is employed in Siberia. These are called *outruchnoi*, (picklocks,) on account of an instrument used by the huntsmen, and which is in the form of a long hook, furnished with a running knot.—*Journal des Haras et de la Chasse*.

CULTIVATE A VARIETY OF CROPS.

THIS principle is inculcated by several considerations; variety of soils and situations; use of the products for various purposes, feeding to stock, selling in market, &c.; time of planting, cultivating and harvesting; variableness of climate; the necessity for rotation of crops or change on the same fields; the eradication of weeds, &c.

Some fields may bear remunerative crops of one plant, yet leave a deficiency from the cul-

tivation of another; and not only are particular soils adapted to one species of vegetation, but so, also, are particular manures, some of which are much more convenient or economical for one locality than another.

So, too, of planting and cultivating. When one species of seeds are put in the ground, and the farmer is waiting to till them, it may be just the time to sow others. When they have sprouted and require to be looked after, one may need attention at one moment, and one at another; while a third, as of the small grains, grasses, and clover, require no subsequent attention except harvesting.

A season that is very cold and wet may be beneficial to one crop, as of grass, and some of the grains, while such as are hot and comparatively dry, are better for others, as Indian and broom corn, and various other products and fruits. The multiplicity of crops in the ground at the same time, is thus equivalent to an insurance on the weather; in which the proprietor gives up a very large possible yield for one crop, while he secures a fair return for his general labor.

Again, various species of animals require different food, and each requires a variety—sometimes hay and straw, at others, grain, meal, or roots. Occasionally, too, the market may be high for particular products, of which the farmer may have good store, and which he may sell to much better advantage than to feed to his stock, a purpose for which, perhaps, it was originally designed.

The necessity for rotation with all its advantages, has been elsewhere specified, and we have not time now to enumerate them.

Various crops may require different kinds of labor. The old and young, and females, too, may frequently be as advantageously employed by one occupation, as in the dairy, or garden, or poultry yard, as the hardy and strong, by others, in the field. Some may require more or less assistance from the horse or ox, while others are adapted solely to manual labor; and certain articles, as flax and wool, may be raised to eke out employment for the inmates of the house during our long winter evenings.

Thus a thousand economical considerations may justly induce us to give variety to our occupations and the various objects of our agricultural pursuits.

NORTH-CAROLINA FARMING.

When is the Best Time to Sow Clover at the South?—Mr. Henry K. Burgwyn has tried some experiments upon his plantation on the river Roanoke, in North Carolina, by which he thinks three quarts of clover seed to the acre, sown in the fall, will make as good a stand as four quarts in the spring, or rather in February, which is the usual time of sowing. The only objection to fall sowing is, that some think it injures the wheat. Mr. T. P. Burgwyn is of this opinion. On the contrary, Mr. H. K. B. thinks that the clover, that is cut with the straw, will more than make up any loss in grain, as feed for cattle and increase of manure.

Broad Wheat and Clover Fields.—Mr. H. K. Burgwyn has 500 acres of wheat now growing, 315 of which is sowed in clover, herds' grass, Timothy, or rye grass. Besides this, he has 220 acres of clover and grass from last year's sowing. Some of the clover sowed with wheat, last fall, grew two feet high. His brother, Mr. T. P. Burgwyn has 700 acres in wheat, and sowed in February, 70 bushels of clover. He has good clover that was sowed in May. He says his brother's fall-sowed clover clogs the reaping machine. I will give facts—let others draw conclusions.

Deep Plowing.—Mr. H. K. Burgwyn has plowed some of his land with two four-horse plows, one after the other, followed by a three-horse subsoil plow in the same furrow. Seven horses to one furrow is a common practice of both these gentlemen. Do you hear that, ye surface scratchers? R.

PROFITABLE CROP OF CORN.

I PLANTED 9½ acres, had the sod inverted with the plow, then put ten loads of well-rotted manure, to the acre, and harrowed it in. Planted in squares 3½ feet each way, put four or five grains in the hill, dropped about a table-spoonful of plaster in each hill, then covered the corn and plaster together. The weeds and grass were destroyed with the plow and hoe, in the usual manner.

The yield was 36 loads—the cart holds 34 bushels, making in round numbers, 1,224 bushels of ears, which was disposed of as follows:—

Sold 300 bushels of shelled corn, at	
62½ cents per bushel,	\$187.50
" 1,800 lbs. pork made wholly on corn,	110.00
" 1,100 " " put up for family use,	65.00
Fed horses, cattle, poultry, &c, not measured, say	50.00
28 loads of stalks, worth \$4 the load,	112.00
	\$624.50

Peekskill, N. Y., April, 1850.

T. FOUNTAIN.

INFLAMMATION IN THE HORSE.—The disease may be distinguished by a coldness of the extremities; this at least indicates inflammation, or that the blood is determined to some local part, and the heaving of the animal's flanks, and his anxious looks at his bowels, as well as their tenderness when touched, will indicate the seat of inflammatory action. The first object is to release the system, and counteract the impetus of the blood; bleeding persevered in, until the horse drops, is the only chance for saving his life. There is another principle in horse medicine which here will be called into vigorous action. No severe inflammation can take place in two contiguous parts of the system at the same time. To lessen the internal inflammation, the belly must be largely and powerfully blistered, and these are the two means of subduing the disease. No purgative medicine should be given, but the horse "back-raked," to prevent the formation of calculi, and a clyster administered in the form of onion broth. All stimulants must be avoided, as they are sure to act as poison to the animal.

MR. ROBINSON'S TOUR.—No. 19.

Sea-Island Cotton Planting.—Edisto Island, one of the largest of the South-Carolina group, about thirty miles southwest of Charleston, containing 5,000 or 6,000 inhabitants, is the principal point where this valuable crop is cultivated. It is a sandy soil, but little above tide, which, flowing through many channels, gives very irregular shapes to the farms, but boatable water almost at every man's door. By this means, the crop is conveyed to market, boats being substituted for wagons. There is considerable marsh, some of which has been reclaimed, and produces good cotton.

Salt-marsh mud is much used for manure at the rate of about forty one-horse cart loads to the acre. Some compost it, others put it in the cattle pens. Some dry it before hauling, and then spread upon the land. Mr. John F. Townsend prefers to use it as soon as dug, spread upon the land wet, and plowed in. He is the only man on the island who uses plows to any extent. All the land is cultivated with hoes, upon the two-field system; that is, one field in cotton, corn, and sweet potatoes, in the proportion of about seven twelfths cotton, three twelfths corn, and two twelfths potatoes; in all, less than six acres to the hand. As the soil is generally very light, it is unproductive without manure. Therefore, as many cattle are kept as can be pastured upon the "field at rest," and the marsh and woodland. These are penned in movable yards, littered with fine straw and coarse marsh grass or weeds, which is also used to lay along between the old rows, to which muck and manure is added, and all the grass sod which has grown during the year is hoed down into alleys, and the bed formed upon it, keeping the bottom as solid as possible.

If the plow were substituted for the hoe, twice as much manure could be made; or what, in my opinion, would be far more economical than digging muck or keeping so many cattle merely to make manure, would be the use of guano. As this substance contains the same fertilising properties of muck, in an hundred fold degree, I would most earnestly recommend planters to try the experiment by applying about 200 lbs. to the acre, plowed in deep, or buried in the bottom of the cotton or corn beds. Make use of none but the best Peruvian, and purchase it from a reliable merchant, so as to be sure it is genuine.

It is true that cattle are easily kept here, living in winter in cotton and clover fields, eating the unmaturing bolls of the former and stalks of the latter. In warm winters, there is much grass, and in summer, I believe, it is rather abundant throughout all the south.

Cotton is planted from March 20th to April 10th, upon high beds, five feet apart one way, and from eight to twenty-four inches apart the other. Corn is planted about the first of April, upon the same kind of beds, from two to four feet apart. Sweet potatoes are planted the latter part of March; also upon same kind of beds as the cotton and corn. As soon as the vines are sufficiently grown, say on the

first of June, they commence planting the "slip crop." This is done by taking the vines from the seed beds, and laying along the top of other beds, and covering a part of the vines with dirt, when they immediately take root, and grow a better crop than from the seed. The bed is made rich and mellow, but the land below is kept as hard and firm as possible. The beds for cotton, corn, and potatoes are all made in the same manner and distance apart, and are reversed every other crop; that is, changed into the alleys of the preceding one, but no rotation of crops is practised. The average yield of potatoes, is about 150 bushels to the acre. Cotton, (long staple,) 135 pounds. Corn, 15 bushels of the southern white-flint variety. No other will stand the depredations of the weevil.

The amount of labor to grow and prepare for market a hundred pounds of Sea-Island cotton, is estimated at fifty days' work; that is, the small amount of labor which a negro does at "task work." The first process of preparing land for cotton, after manuring, is "listing"—that is hoeing the grass off the old beds into the alleys. A "task" of this work is one fourth or three eights of an acre a-day. Next, the old beds are hauled on top, at the same rate. The whole "task system" is equally light, and is one that I most unreservedly disapprove of, because it promotes idleness, and that is the parent of mischief.

The system of upland-cotton and sugar planters, of giving the hands plenty to eat, and steady employment, is a much better system. Meat is not generally fed to the laborers in this part of the state. The diet is almost exclusively vegetable, varying upon different plantations somewhat. The following are the weekly rations upon four places, which will give a general idea.

1st. One bushel potatoes a-week from about October 1st to February 1st. Then one peck of corn, ground or unground, as preferred, or one peck of broken rice. Meat occasionally.

2d. One bushel potatoes, or 10 qts. corn meal, or 8 qts. of rice, and 4 qts. of peas, with occasional fresh meat, and twenty barrels of salt fish and two barrels of molasses during the year. Number of people 170.

3d. Half a bushel of potatoes, 6 qts. of meal, and about 2 lbs. of fresh meat, or 10 qts. of meal, or 10 qts. of rice. Carpenters, millers, drivers, and others, who do not raise crops and hogs for themselves, have a much larger allowance.

4th. Half a bushel of potatoes, or 10 qts. of meal, and at times, when the labor is hard, a quart of soup a-day, and in light work twice a-week. This is made of 15 lbs. of meat to 75 qts. of soup, thickened with turnips, cabbage, peas, meal, or rice. Upon this place, as well as many others, the people can get as many oysters, crabs, and fish as they like. They also keep a great many more hogs than their masters, but generally sell the pork instead of eating it. A half bushel of sweet potatoes, as measured out for allowance, by repeated weighing, averaged 43 lbs.

The process of preparing Sea-Island cotton

for market after it is grown, is so remarkable, and so little known, that I will give the particulars.

In gathering it from the field, great care is taken to keep it clean and free from trash and stained locks. Upon the drying scaffold it is sorted over before packing away in the cotton house. When ginning, in fair weather, it is again spread upon the scaffold, and assorted. Some run it through a machine called a "trashier," that whips it up and takes out sand and loose dirt. It then goes to the gins, which are the same kind first invented; none of the many new inventions have been found efficient, and the Whitney gin totally unfit for Sea-Island cotton. These simple machines are $3\frac{1}{2}$ feet high, 2 feet long, and 1 wide, with an iron fly wheel like that of a "box cornsheller," upon each side, working a pair of wooden rollers, made of hard oak, about ten inches long and nearly an inch in diameter, held together by screws. In one instance, I saw a simple spring bearer under the lower roller and an iron one on top, to prevent the cotton from winding. These rollers wear out, and have to be replaced by new ones every day. I would recommend gutta-percha, as worthy a trial, as a substitute for wood, as something tough and hard is required. The rollers are moved by the foot, like a small turning lathe, the operator standing at one end of the gin, feeding the cotton very slowly through the rollers, leaving the smooth black seeds behind. A "task" is from 20 to 30 lbs. a-day, according to quality. Twenty or thirty of these little machines stand in one room; and strange to say, none of those who have attempted to propel them by other power have succeeded. One very intelligent gentleman told me that he had spent \$5,000 in trying experiments in machinery to gin this kind of cotton.

From the gins, the cotton is taken to the mote table, where a woman looks it over very carefully and picks out every little mote or stained lock, as fast as two men gin. From the mote table it goes through the hands of a general superintendent, or overlooker, and then to the packer. This operation is done by sewing the end of a bag over a hoop, and suspending it through a hole in the floor, and in this, the packer stands with a wooden or iron pestle, packing one bale of about 350 lbs. a-day, as fast as it is ginned; as exposure to the air injures the quality, and it is not so salable in square bales packed in presses, as it is in hand-packed bags.

The whole operation of preparing this valuable staple for market requires the nicest work and careful watching of the operatives, as a little carelessness injures the value to the consumer. It is worth from 30 to 50 cents a pound—more than common wool.

The cultivation of these plantations is exceedingly neat—too much so, probably, for the greatest profit, as has been proved, I think, by Mr. Townsend, in the use of plows instead of hoes. Mr. T. has also proved that sugar cane will grow well, and has put up a small mill, and made some sugar. The cane matures fifteen joints and granulates well.

HOW MUCH LIME WILL AN ACRE OF LAND BEAR WITHOUT INJURY?

This is a question often asked and as often answered in various ways. Some persons contend that no more than fifty bushels of slacked lime should ever be used at once, while others are of the opinion that it is better to put on 100 bushels at first than to make two or three jobs of it; and that there is no danger of an overdose; while, on the other hand, it is alleged that too much will kill the land. Now, how much is "too much?" This depends much upon the nature of the soil.

The largest amount within my knowledge, was applied by James P. Corbin, Esq., of Caroline county, Virginia, upon cold, clayey land, known in that region as "pewtery land," because, when wet, it seems to run together somewhat like melted pewter, with a glistening surface. Upon two acres, he put 1,600 bushels, and plowed deep, drained well, and planted in corn, and made a good crop. It was then sowed in wheat, and when I saw it in April, it looked far better than any upon adjoining land, and about two thirds as good as that upon which guano was applied—one costing \$64 and the other \$5 an acre. I cannot advise others to follow suit, though the experiment, so far, has proved that some land cannot be "killed with lime." S.

EASY METHOD OF DRAWING WATER FROM A DEEP WELL.

ONE of the best pieces of mechanism that I have seen for this purpose, was applied to a well 80 feet deep, by W. P. Carmichael, at his mother's, Mrs. C's residence on the Sand Hills, near Augusta, Georgia. It is upon the same plan as the simple hoisting apparatus of a store; or that described at p. 177 of the current volume; that is, an endless rope, to which two buckets are attached, passing over a wheel, about six feet in diameter, which turns the barrel upon which the rope is wound. A hinged lid, on top of the well curb, directly over each bucket, is thrown back as the bucket comes up, and as soon as clear, falls, and the bucket is eased back and stands upon it till wanted again.

A boy a dozen years old can draw water with this apparatus without fatigue. A pipe leads from a tub by the side of the well to the stable, about 150 yards off, thus affording a convenient watering place for the stock. R.

WIREWORMS DESTROYED BY SODA ASH.—The Highland Agricultural Journal asserts, that soda ash will kill the wire worm. There is little doubt of this, if applied in its caustic state directly upon the worm; but when he is covered with a stout jacket, consisting of several inches of earth, we opine, a blister might be applied to the overcoat of a patient with equal hope of success. However, like the post-mortem ingenuity of the old man who bequeathed the pot of gold to that lucky finder who should most industriously dig over the vineyard where it was alleged to have been buried, the application would undoubtedly result in largely augmented crops.

TO PROMOTE THE SUCCESS OF COUNTY AGRICULTURAL SOCIETIES.

THOSE county societies in our state, which have been most successful in raising funds, that have done the most good, and which have made themselves most popular among the farmers of their respective counties, have adopted the following general plan of proceedings:—

1st. Erected permanent buildings for their fair, at the most convenient and accessible location in the county. For this, they annually obtain a considerable contribution from the inhabitants of the place, it being quite advantageous to them to have the fair held there.

2d. The exhibition grounds are fenced in with a tight, high board fence, the admission fee to which is one shilling. Such is the fondness of human nature to witness shows of any kind, and more especially when shut in from vulgar gaze, that thousands will pay a shilling for the privilege of entrance, who would not contribute a single penny as subscription, or membership, to the most useful society in existence.

3d. The competition is made open to every citizen of the county, whether a member of the society or not; but all competitors are required to pay a small fee on each animal or article entered for a premium—the fee in each case being a uniform percentage on the premiums offered.

4th. The fee for membership is fixed at one dollar, which no enlightened and liberal farmer ever makes any objection to pay.

5th. A liberal list of premiums and prompt payment of the same.

Lastly, various innocent shows and amusements are permitted at the same time the fairs are held, which tend to popularise them among the farmers.

So long as the county societies have been ambulatory in their exhibitions, and above all, held open to the sight of all, they have required the hardest kind of work for a few spirited men barely to keep them up in a miserable existence, no matter how often and in whatever shape they might appeal for their support to the people of the county. But the moment the *fenced* grounds were adopted, making the thing a little exclusive, then they would flock there with their wives and children by the thousand. Pride and curiosity were immediately aroused, and the people would enter the *fenced* grounds; and the best of it was, that they would at the same time with equal alacrity hand out the shining

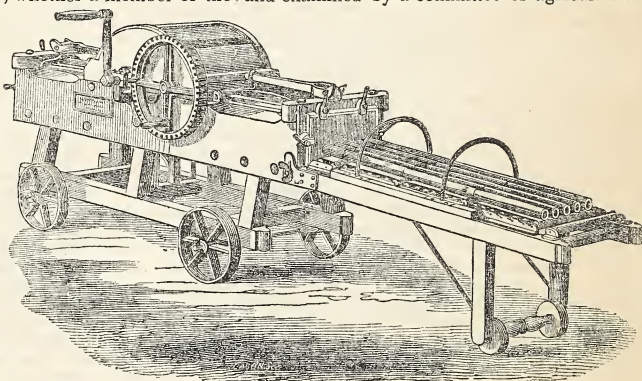
shillings for the privilege of doing so. This is human nature, and it must be dealt with accordingly; it will always contrive somehow to force barred gates, and enter forbidden grounds.

TILE MACHINES.

THE following, from a zealous and intelligent friend of agriculture, long and favorably known to farmers of western New York, gives some valuable information on the subject of thorough drainage:—

The machine imported by me, for making draining tiles of various sizes and patterns, was made by Thomas Scraggs, of Calvely, Taporley, Cheshire, England. The cost at his works, with a large assortment of dies, screws, mandrels, &c., was £35 1s. The freight and charges amounted to £12 more. Total cost in New York, £47 1s. Additional charges to deliver it here, and incidental expenses are not necessary in computation of cost to others.

The weight and space occupied, I have no means now of stating. The machine was made for me under the personal inspection of a friend, and examined by a committee of agriculturists



TILE MACHINE.—FIG. 57.

before sent to me. It is capable of turning out from 4,000 to 6,000 tiles per day, worked by hand, with two boys at the winch, one man to unload the table, and another man to carry the tiles to the drying shelves. The machine, however, has not done that quantity of work here, though I feel confident that, under economical disposition of time, it can easily perform the highest rate stated. I allude to tiles of 2½-inch rise by 15 inches long. Pipes are made much faster. No horse is necessary except for the pug mill, for tempering the clay.

I am not aware that any machine of this character has yet been made in this country. Our mechanics are fully equal to those of England, and are capable of making and improving them; and whenever the demand will warrant the expense of forming the first patterns and moulds, they can be made here, comparatively, at a very

small cost. There is a foundry near me, where they can be well made by artisans of merit and talent; but I have not dared encourage them before there exists a greater demand. Several persons have applied to me under like circumstances, but whenever the expense of patterns can be secured, a machine will readily be produced.

The machine imported by me is kept in constant work, so great is the demand for tiles. I laid about 10,000 on my farm, last autumn, and the benefit is now strikingly exemplified. I am now thoroughly satisfied as to their importance, and economy in their use. It may be some time, however, before our farmers, in general, will be convinced that a subsoil is wet and poisonous to their grain, when they do not see it standing in puddles on their fields. Several of my drains have poured forth streams of pure pellucid water, where the surface was dry, soft, and pleasant to the tread; and where a sour grass was produced, I now have most luxuriant wheat plants. This county will exhibit many such results this year; and such proofs will cause a rapid increase of tile draining from year to year.

J. DELAFIELD.

Oakland, *Rose Hill, Seneca Co., N. Y., 1850.*

SUMMER PRUNING.

This month, or the next, is the proper season for pruning fruit trees, and such others as shed their leaves in autumn. In consequence of the downward motion of the sap, new wood is formed and a more perfect healing of the wounded parts takes place, than when the operation is performed in winter or spring.



PRUNING SAW.—FIG. 58.

The branches should be pruned off close, and with a clean, smooth cut, without starting or bruising the bark. This may be done with a very convenient instrument called a "pruning saw," denoted by the above cut. It is constructed of various sizes, with fine teeth, and is usually from 14 to 18 inches long. See pruning implements, also, at page 33 of the current volume.

CUTTING AND CURING HAY.

In passing the hay market near 6th street, in your city, when I resided there, I often noticed the great difference in the color and quality of the loads of hay. While some were of a bright green, others were almost black. I believe I now understand that the variation depended upon the time the hay was cut, and the manner of curing it. Last summer, I commenced mowing my clover when it was in full blossom, when the weather was fine. The previous year, the crop was nearly lost by leaving it too late, when the clover fell, and so badly lodged as to rot a great part of it. I attempted to cure it the same day, but as it was by far too green, I was obliged to leave it the part of a fine day, to the exposure of the sun in the swath, and turn it carefully over once. Towards night, I put it

in small, tall cocks, and left it a day or two. I opened the cocks for a short time to dry it, and then carted it into the barn. Most of my other grass, I cut equally early.

The result was, that my hay has been of the most superior quality, preserving the richest fragrance, and the leaves and blossoms of the clover, remaining almost entire. The latter, when chewed, had the exact taste of the blossom upon the growing plant. In feeding, I have had it cut up with a hay cutter, mixed with bran and ground feed, and given to my stock, which would have consumed much more than I had, if I had not pursued this economical course. My cattle are in fine order, and the cows have given milk all winter, instead of drying off as usual.

At the time of mowing, I selected a strip of Timothy grass, which appeared to be pure, and left it to ripen. This, I cut in the usual way with the scythe, and raked it up with the horse rake. After it was carted in, it was left on the barn floor for a day or two, and then threshed with flails. From what I cut, I cleaned up a barrel of seed, and the hay was sold with the rest, for the usual price. H.

ADJUSTABLE SCREW WRENCHES.

In the arrangement, combination, and proportions of the parts, these wrenches are acknowledged to be the most convenient, efficient, and strongest now made, and having been long in use and fully proved, are most favorably known among our mechanics.



ADJUSTABLE SCREW WRENCH.—FIG. 59.

The screw which moves the sliding jaw is most expeditiously and easily operated by the thumb of the hand that grasps the handle, and the space between the jaws is adjusted to the size of the nut or screw, to be turned under any circumstances, more easily without than with the assistance of the other hand, which may be otherwise engaged.

By placing the screw that moves the traversing jaw by the side of the shank, or main bar of the wrench, the full size and strength is retained.

ROTATION OF CROPS.—Wheat may follow clover, beans, peas, the hard crops, or an old turf, with decided advantage, as there is a change or rotation from one species of plant to a different one. Not so, however, when it follows Timothy, for here it is one grass following another, the wheat being classed by botanists in the order, *gramineæ*, of which it is a true member. Wheat does not, therefore, appropriately succeed Timothy, as it would not herds' grass nor rye grass, nor any other of the true grasses, unless first fully and properly dressed with appropriate manures. Hundreds of farmers have observed this fact, and are surprised at it. Had they read the agricultural papers aright, they would have learned this was a result not only to be wondered at, but that any other would have been a first cause of wonder.

PRINCE ALBERT'S PLAN OF DISPOSING OF TOWN SEWERAGE.

At a late meeting of the council of the Royal Agricultural Society of England, a plan was presented for their consideration, from his Royal Highness Prince Albert, one of the governors of the society, on turning the sewerage of towns, at present the cause of disease and pestilence, into a source of national wealth, by its application to purposes of agriculture.

The plan proposed, was, to form a tank, with a perforated false bottom, upon which a filtering medium should be laid; and to admit at one end the sewerage into the tank, *below* the false bottom, when, according to the principle of water regaining its own level, the sewerage liquid would rise through the filtering bed to its original level in the tank, and, provided the filtering medium had been of the proper nature and of sufficient thickness, it would be thus freed from all mechanical impurity, and would pass off into the drain, at the other end of the tank, as clean and clear as spring water. This simple and effective plan was illustrated by drawings, showing the vertical and horizontal sections of the tank, and by a neatly-constructed model of its external form and internal arrangements.

It was also clearly shown by these sections, how the sewerage matter could be let into the tank, or shut off, when necessary, in the simplest manner, by means of common valves; and with what facility such a filtering tank might be applied to every existing arrangement of sewers, without requiring any alteration in their structure. The filtering medium having abstracted from the sewerage all extraneous matter, would, in all probability, become the richest manure, and could, at any time, by stopping the supply of sewerage, be taken out by a common laborer, with a shovel, and carted or shipped to any place thought most desirable. The solid matter, too, held in suspension by the sewerage, would probably form a very rich deposit at the bottom of the tank, of a substance approaching in its qualities to guano, and could be extracted by removing the false bottom, which rested on arches or vertical supporters over the sewerage below it in the tank, and could be easily made to lift up or take out for the purpose of such extraction. Two tanks might easily be constructed together, so that one might continue in operation while the other was being emptied. The experiment might be tried at any house drain in town or country; in fact, the prince had himself tried the operation on a small scale with apparent success; and while he thus suggested an important and extensive application of the hydrostatical principle involved in the plan proposed, he wished to lay no claim to originality in the adoption of that well-known law of fluid bodies by which they make an effort, proportionate to their displacement, to regain their equilibrium. On that principle was founded, as he was well aware, the upward-filtering apparatus used by the Thames water companies. Prince Albert's great object was by the simplest possible means to attain a great end; to effect an essential san-

itary improvement, and at the same time to create a new source of national wealth, by the very means employed for the removal of a deadly nuisance, and the conversion of decomposing matter, highly noxious to animal life, into the most powerful nutriment for vegetation. He wished to offer no opinion on the details required to complete the plan proposed, nor on the mode of carrying it out in the most effective manner. Supposing it to be right in principle, its advantages, in an economical point of view, he conceived could only be ascertained by practical experience; and it was on that account that he wished to submit it to the consideration of the Agricultural Society, who might be better able to carry out the necessary experiments. It would remain to be decided what is chemically or mechanically the best, and what the cheapest substance for the filter; what the best and cheapest construction of the tank; how long the sewerage will pass before the filter becomes choked; and how soon the filter could be sufficiently saturated to make it profitable as a manure. He had used as the filtering medium, the following substances:—

1. Charcoal—admitted to be the most perfect filtering substance for drinking water, retaining effectually extraneous matters, and well known for its singular powers of purification.

2. Gypsum, (plaster of Paris, or sulphate of lime,) recommended by agricultural chemists, for fixing ammonia and other volatile substances, by the decomposition to which it becomes subject, when exposed to the action of volatile alkali.

3. Clay, in its burnt state, would act mechanically as a filtering bed; and in its unburnt state, on account of its aluminous salts, has also the property, like gypsum, of fixing ammonia, or of decomposing the ammoniacal and other alkaline salts present in manure; and in either state would be cheaply procured.

All these substances, it was thought, would in themselves be highly useful as manures, independently of the purpose they would subserve as agents for filtration, or of the additional amount of manuring matter they would receive from the sewerage which they purified. In this incidentally referring to the substances he had himself employed for the filtering medium, he was well aware how many more of equal, if not superior value would suggest themselves to others, who, like himself, felt an interest in effecting the important object proposed. As he had given no opinion on the general question of the liquid or solid application of manure, but had merely stated the grounds of preference, in a practical sense, of the solid form over the liquid for the purposes of the filtering operation under consideration, he entered into no discussion on the amount of manuring matter retained by the filter, compared with the soluble matter that might pass through it along with the water, and remain in that liquid in a soluble, colorless, and transparent form; nor of the value of such filtered water for agricultural purposes. He had confined his observations to the agricultural value of the filtering bed, and the

rich deposit obtained in the purification of sewerage for sanitary purposes.

After the general expression of the members present, of the approval of the plan, and of the gratification it gave them, to find that his Royal Highness was devoting his enlightened attention to matters of such vital importance to the country, the council unanimously voted their thanks for the kindness with which he had honored them with so interesting a communication, on so important a subject.

BREAKING ROCKS WITH FIRE.

I BELIEVE it is not generally known that large boulders may be easily broken with fire. I have broken many that were on my land in the following manner:—If the rock is imbedded in the earth, remove the earth around it, and with a large lever raise one side of it a little, and put small stones underneath, so that when it cracks, it will separate of itself. Then, make a narrow fire across it, and in a short time it will crack, so that, with an iron bar and a small iron wedge or two, it may easily be separated. If scales start on it before it cracks, they must be removed, which can be done with a pair of tongs. If it does not break readily, build the fire across in another direction. In this manner, a man will break a dozen large boulders in a day.

L. C.

PLOWING IN CORN FOR MANURE.—When sown broadcast, even if it has reached a height of six or eight feet, this is easily done by attaching one end of an ox chain to the clevis of the plow, and the other to the beam where the coulter intersects it, throwing the bight, or double part of the chain, into the furrow at the right. As this is dragged along, the stalks will be thrown down and covered by the furrow. To finish up the work, and cover any straggling leaves or tops, attach a light halter chain to the standard of the plow, with a three-pound weight at the dragging end, which throw into the furrow. This will effectually cover up all the crop left unburied by the plow.

ECONOMICAL MODE OF DRAINING LAND.

I AM a believer in thorough, systematic draining when the farmer has a capital to do it, but the greater part have not that capital. It is therefore necessary to adopt a temporary system, in order to raise good crops; for it is evident to every farmer, that grain, or even grass, will not grow advantageously on wet land.

The manner of draining that I have practised for years, I will now attempt to describe, which answers a good purpose on all swales and wet places that are not fed by springs. If necessary, let off the water by plowing a furrow, or by opening a trench with the spade; then plow the field. After the sod has rotted so that you can plow to advantage, mark out a land, the centre of which will be where you want your drain, with the outside extending, if practicable, to where the ground ascends. Plow deep, repeatedly lessening the land a little at each plowing,

so as not to leave a ridge between the outside of the field and the centre. By plowing from three to five times, and clearing out the dead furrow in the centre, with a shovel or spade, you will have a drain, or hollow, two or three feet deep, that will last for years.

There are several advantages attending this method. You have a drain nearly dug when you want to put in an underdrain, which may be covered by throwing the earth back with the plow. You also have the subsoil mixed with that of the surface, which, in most cases, is deficient in vegetable mould, and is ill adapted to the growth of wheat and other crops, thus rendering it more productive than any other part of the field.

I have reclaimed considerable wet land in this way, and have found it cheap and expeditious. I always plow the rest of the field, if possible, so as to cross the main drains. I make my lands about three rods wide, always plowing them the same way. When the field is sowed, I run the plow through every dead furrow, and clean out the earth with a shovel or spade. I think if the above method were practised by farmers, we should hear less of the winter-killing of wheat and the failure of crops. My experience has been on a soil and subsoil of clayey loam, which is the character of most of the land in this state, called "timbered openings."

LINUS CONE.

Troy, Michigan, 1850.

THE FARMER'S HOME.

WHAT place ought more deservedly to be a place of happiness and peace, than the Farmer's Home! It stands, may be, upon the soil consecrated by the labor of his own parents' hands; hallowed by the recollection of his own sunny childhood; endeared by the sweet memories of other days. If not, it is at least his home. It stands upon his own heritage of earth's broad surface, and its doorway opens upon his own fields of waving grain. No pestilential breath of the city's corrupting influences pollutes the free, fresh air which plays around it. The birds, near the windows, warble their morning and evening songs, and the setting sun throws its lingering shadows through the old trees that stand, (or ought to stand,) around it. And when the night time comes, and silence takes the place of the busy hum of industrious hands, labor-brought sleep folds all within its embrace, until the morning light brings again new labors and new pleasures. Such is, or should be, the farmer's home.

Love of home is one of the strongest principles implanted in the mind by our Creator, and when cultivated, is productive of pure and natural enjoyment. The happiness of the domestic circle has long been celebrated in poetry and in song. With how much beauty and truthfulness, the home-loving man alone can tell! But love of home and the domestic circle is not only productive of happiness, but of morality and virtue. This feeling, existing strong and unbroken in the minds of our children, is one of the surest safeguards against vice. It is one of the most

powerful ties to bind them to the pure and the true. Such being the case, ought not every parent to do all in his power to cherish this feeling in the hearts of his children? Most certainly, yes! And how can it be done? By farmers, I mean, for it is for them particularly that I am writing.

And first, by way of illustration, let me here briefly sketch two pictures. In the foreground of the first, you will behold a two-story "shingle palace," standing close by the roadside, affording a fine passage for the dust at all times in summer through the open doors and windows. A dark-red fence most securely incloses a small space, perhaps six feet wide, and just as long as the dwelling. Some remembrance of "long ago," in the shape of antique hog troughs, are carefully thrown down by the fence a few feet from the yard; while a troop of "alligator" pigs vigorously testing the strength of their respective lungs, wear off what little fat they otherwise might have had by their incessant journeyings from the front door to their eating logs. No trees are guilty of overshadowing the spot; the house stands "alone with its glory." On every side is shown the most deplorable disorder and negligence. The backside looks, if possible, worse than the front; and with its living ornaments of chickens, geese, and turkeys, presents a very moving spectacle. Uneven stones, laying upon slop-washed ground, devoid of grass, facilitate the ingress and egress of the inhabitants of this, alas, too-often-to-be-met-with home!

But, kind reader, let us turn our attention from this unattractive picture, and gaze through those broad, green trees, upon that humble cottage, which stands a few rods from the roadside. You can just recognise its windows peeping forth from beneath the luxuriant vines that almost conceal them, and the rustic portico is entirely covered by that beautiful trumpet vine, which, with its rich verdure, forms such a cool summer resting place. What a velvet appearance the little lawn has, as it lays spread out before the door, dotted here and there with flower-covered beds, cut in the turf and shaded so beautifully by the mellow sunbeams, as they cast bright shadows over it from between the broad branches of the trees that stand around it! How beautiful the whole appearance, as we stand here and breathe the fresh, pure air, which seems fresher and purer from having stopped a moment to play with those dark-green leaves, and kiss away the perfume from those beautiful flowers! Parent, bring your little child with you here, show him the two scenes, and judge by his actions which is most likely to cultivate a home feeling in his mind.

But do you exclaim, "Yes, this is all very well for those who can afford it, but I am poor, too poor to go to such an expense." Why, friend! there is no farmer too poor, in our free land—too poor to have a beautiful home of his own; for it needs not wealth to make it peaceful and happy. God has scattered the means all around us, and a little pleasant labor will be sufficient to beautify and adorn it. Spare a

little ground around your dwelling for a lawn, trees, and flowers. You can find leisure to plant the trees, and your wife and daughters will, I trust, gladly attend to the vines and flowers. It will take but a little time, and once engaged in the work, you will reap a rich reward in the labor itself, and feel within you the happy feeling which can only be felt in adorning and making more pleasant your home. True, the ground thus devoted, might be more useful, in a mere dollars-and-cents point of view, planted with corn; but if refinement of feeling and an increased love of home are any recompense for a few paltry dollars and cents, then this little spot will pay most usurious interest upon all the capital invested. If keeping your children from vicious influences, and teaching them to love their birth place, and care for its appearance is aught gained, then rich will be the yearly, yea, and daily return from this small spot! Gladly as they grow older will they tend, and still more beautify it; and "Home Sweet Home," will ever in their after life, exert its purifying influence upon their feelings, leading them to toil earnestly to make for themselves, in their second childhood, such a sweet resting place as that in which their earlier years were passed.

But while I know that the external appearance of home, will not of itself be sufficient to do all this, yet I do contend that if seconded by the amount of internal happiness which usually characterises our farmers' homes, it will do far more than is generally believed. It will throw such a charm about home, that it will prove pleasanter to our sons than the tavern or the grocery. It will present pleasures and amusements at home, sufficient to satisfy the minds of our children; and they will grow up with larger hearts—with more refined feelings—with a stronger love for agriculture. In short, better and purer for having lived in a home made beautiful by rural embellishment. And believing this, we believe the conclusion to which it inevitably leads, that it is a duty which every farmer owes his children, thus to beautify his home.

LUKE DERWIN.

Clinton, N. Y.

HOUSING MANURE.—It is miserable economy to throw manure out into the open air, and leave it exposed to all the variations of the weather till it is wanted for use. Some build sheds over their hovel windows, to protect their manure heaps. This is a good improvement, but a manure cellar is better.

TO CLEAN GUANO BAGS.—Put one gallon of salt to four gallons of lime, in eight gallons of water, and after rinsing off all the loose guano, in clean water, put the bags in the mixture, well stirred up, and let them remain 24 or 36 hours, and they will wash white and perfectly clean. Don't waste the liquid; it is a valuable fertiliser.

LARGE DAIRY PRODUCTS.—Mrs. Hines, of Massachusetts, keeps five cows which produced her, last year, for butter, cheese, milk, and calves, an average of \$67.37 to each cow. Who has a larger story on dairy products?

FARM OF MR. FRENCH.

SOME of the best cultivated and most profitable farms in New England are in the vicinity of Boston. Among the number is that of Hon. Benjamin V. French, in Braintree, Massachusetts, which is considered one of the largest and most productive in the county. This farm took the second premium last year; and the committee, who visited it in the summer season, having enjoyed a more favorable opportunity of judging of its condition, we give the following condensed account with a few statements copied from their report:—

The farm and outlands contain 185 acres. The homestead, about 90 acres, is composed of strong soil, originally abounding in rock; much of it is thoroughly subdued, drained, and inclosed with heavy stone wall. It is situated on one side of the Monaticquot River, and is occupied as follows:—Mowing and orchard united, 29 acres; tillage and orchard united, 10 acres; nurseries and orchard united, 8 acres. The outlands consist of salt marsh, fresh meadow, swamp for muck, plain, pasture, and woodland.

In his mowing and tillage, his first object has been to get rid of surface and spring water, by underdrains, drains under walls, and open drains; next, to free the soil of stones, and put them in deep trenches to receive the wall. The lots to be inclosed are intended to be no larger than is necessary to require all the stones on the lot. As the land is stony, some of the lots are small. After the stones are removed, the land is plowed deep and cultivated one year. The second year, it is subsoiled, and all the stone is then found, and removed from the field. The soil is thus put into the very best condition for cultivation. His grounds are well laid out, and are easy of access by broad avenues and gates. Within the last thirteen years, he has made and re-laid 1,351 rods of wall.

His orchards, generally, appeared to be in a healthy condition. He has spared neither trouble nor expense in procuring the choicest varieties of fruit trees, which he has been planting, yearly, since 1818. His collection is large and select, including 1,815 apple trees, 764 pear trees, 199 cherry trees, 138 plum trees, 445 peach trees, and 52 orange-quince trees, making in all 2,413 standard fruit trees. His nurseries, embracing 8 acres, and containing all the approved varieties, appeared in fine condition.

He has about two acres occupied by dwarf-pear, apple, cherry and plum trees, the smaller fruits, ornamental trees and flowers, which are neat and beautiful, affording a rich treat for the table, and probably as much profit as any other equal portion of his farm.

He cultivates green crops for summer feed; his cows require something more than pasture grass during the hot season. This practice is recommended as a matter of economy, especially on a milk farm. His root crops, sugar beets, mangel wurzels, carrots, ruta bagas, and flat turnips, grown principally for his cows, will amount to about 2,000 bushels.

His stock—six horses, twenty cows, six oxen, and twenty swine, was in fine condition. One

man has the superintendence of his oxen, which are very fine; another, of his horses, and a third, his cows. The cattle are provided both with food and drink in their stalls; the cows are there milked, and everything so arranged that the help about the barns is subjected to the least possible inconvenience and trouble. His barnyards and hogpens are supplied with muck, which is exposed to the frost and the atmosphere before using. By keeping his stock most of the year in the stalls, his amount of fertilising matter is greatly increased, and he is enabled to produce a great portion of his compost on his own premises—a great desideratum with every agriculturist.

He has laid about 1,000 feet of blind drains, from two and a half to three feet deep, and about twenty-four feet apart. He has subsoiled 10 acres, to the depth of 16 or 20 inches, partly over drains and partly not. The deep, blind drains and the subsoil plowing, he has found beneficial on stiff and moist lands, and recommends the practice.

The comforts about the house are such as might be expected of Mr. French. The men have a cozy, pleasant room, fitted up as a sitting room, for their own use, where they can have a fire when necessary, a dining room and sleeping chambers, all unconnected with the main house. Whatever Mr. French undertakes, he finishes properly. His farm, as a whole, exhibits as much varied husbandry as is usually found in one establishment, and does him great credit.

CULTIVATION OF PEACHES ON LONG ISLAND.

THE peach on Long Island had almost become extinct, until within a few years, for the want of a sufficient knowledge on its cultivation. Well does the writer remember when large peach trees were standing around the farms producing an abundance of fine fruit. At that day, no one thought of selling peaches; but times have changed since. They have become a profitable article to cultivate.

One reason why peaches have not been cultivated more on this island, late years, is, probably, because our farmers do not understand the treatment they require. We can grow as fine peaches here as they do in New Jersey, and with as little labor. Yet, as Providence has decreed that "man shall live by the sweat of his brow," if we are to have peaches, we must work for them.

Any one who doubts that good peaches can be raised here, can visit the orchards of Messrs. Carman & Co., at Half-Hollow Hills, in the town of Huntington, near the Long-Island Railroad. I have been credibly informed that they have 60 or 70 acres in peach trees only four years old from the seed, from which they raised from 2,000 to 3,000 baskets of fine fruit last season.

In order to have good healthy peach trees, the pits, (seeds,) from which the stocks are to be raised, must be obtained from trees that are young and healthy. Get, also, your buds from young, healthy trees, known as good bearers, and producing the best varieties of fruit. Insert the first season's growth, say about the first

of September. I prefer leaving a little wood attached to the buds, rather than take it all off as is usually the case. It appears to keep the bud alive longer, giving it a better chance to unite to the stock.

If the trees are to be transplanted, they ought not to stand longer than one season from the bud. As a general thing, the younger they are transplanted, the better. The soil in which they are to grow, does not require to be very rich. Such land as we have overrun with red cedar and bayberry bushes will produce good peaches by breaking it up, and sowing, broadcast upon it, from 8 to 10 bushels of bone dust to the acre.

My plan of killing the peach borer is, to scrape away the dirt from around the roots of the trees in the fall, say about the middle of September, when, if there are any of these insects, they may easily be detected and killed, before they get far into the bark. By leaving the roots bare a few days, and going over them again, I am sure to kill them all. I then take a shovelful of wood ashes and put around each tree, and haul back the earth to its place.

My remedy for the "yellows," which I consider a contagious disease, is, to destroy the tree, root and branch, as soon as the least symptom appears.

HAWLEY B. ROGERS.

Huntington, L. I., May, 1850.

MANURES—THE FOOD OF PLANTS.—No. 3.

In the two numbers preceding, I gave the names of the inorganic constituents of plants, and endeavored to point out various sources from which the enterprising and calculating farmer could frequently and economically obtain them, for the purpose of restoring to his soil an equivalent for those removed from it by the crops harvested. I proposed, also, to say something respecting the organic portions of plants, or those gaseous substances which make up the great visible bulk of all the vegetable productions of the earth, and which perform such important purposes in their growth, and in the maturing of their fruits and seeds.

Carbon, oxygen, hydrogen, and nitrogen make up the great bulk of all vegetable and animal productions; and they constitute that portion of a plant or animal, which is dissipated in the process of burning; the result of which is nearly the same, whether the combustion is at once effected in the fierce fire of a steam engine, or the more gradual decay, by natural decomposition, or the rotting process, that, sooner or later, takes place in dead organic matter. In either case, they are ultimately resolved into these four organic bodies, and are thus prepared in the economy of nature, to be again worked up into new forms of vegetable and animal life. Every cord of wood that is burned restores to the atmosphere just sufficient carbon for the growth of another cord; so of the oxygen, &c. And of all the organic matter that once formed the bodies of the soldiers of Xerxes' vast army, not one particle has been lost, or annihilated;

and, doubtless, some of the identical molecular particles of organic matter, that composed part of the bodies of those soldiers, have been transmitted from vegetable to animal matter, and *vice versa*, hundreds of times since the battle of Thermopylae.

Carbon, in its solid and nearly pure form, we have in charcoal, and in a dissolved state with oxygen, as carbonic acid gas. Oxygen, hydrogen, and nitrogen are, in their elementary state, simple gases, or invisible air. We have oxygen and hydrogen in a liquid form in the water we drink, and oxygen and nitrogen in a gaseous form in the air we breathe. These three simple gases in the laboratory of the skillful chemist, can be handled, weighed, and measured, and can be combined in different proportions, so as to form a great variety of gaseous, liquid and solid chemical substances, and some of them, too, of a most destructive and virulent nature. Yet, with all his skill, the chemist cannot manufacture from these three gases and carbon alone, nor by the addition of any, nor of all the inorganic matters of plants, any compound or mixture, that will answer the purposes of nutrition, nor as food that will sustain animal life. "And as far as our knowledge at present extends, no animal is endowed with powers of assimilation sufficiently potent to convert into nutriment carbon, nitrogen, and the other ultimate elements of animal substances. These elementary materials require the previous and more efficient action of vegetable chemistry. And such is the vital energy, of that chemistry—so thoroughly does it elaborate and combine those elements, that little beyond solution and separation is required of the digestive functions of the higher orders of creation."

It therefore follows, that animals cannot exist except through the intervention and instrumentality of plants; and it follows, too, that vegetable preceded animal life. Moses so tells us in his History of the Creation. Geologists so teach; and researches in animal physiology confirm the truth of Moses and the geologist. The soil might exist without the plants, the plants might live and die, though there were no animals to feed upon them, but the animal is, as it were, the creature and the consequence of both. Long before Virgil's time, it was known that animal manures applied to the land increased the amount of produce, and kept up the fertility of the soil in proportion to the amount of manure applied; but it has been left to the researches of modern chemists to explain to us the how and the wherefore of the favorable action of manures upon the growing crops; as well, also, as the part that some of these elementary substances play in the formation of the different parts and products of plants. The carbon of plants, (that part which can be made into charcoal,) which forms from 40 to 50 per cent. of their dry weight, is supposed to be principally derived from the carbonic acid of the atmosphere, the absorption and decomposition of which is effected by the direct agency of the leaves of plants, in daylight. In the leaf, the carbon is separated from the oxygen, which is restored to the air,

the carbon retained for the formation of the woody texture, and, in connexion with oxygen and hydrogen, forms, in different plants, starch, sugar, gum, rosin, oil, &c., substances wholly composed of carbon, oxygen, and hydrogen; and possibly the atmosphere and water may always furnish a supply of these three elements for the use of all plants. Water being composed of oxygen and hydrogen, may, by the efficient agency of vegetable chemistry, be decomposed in the plant, and thus supply those two gases for new and different combinations. LEVI BARTLETT.

Warner, N. H., March, 1850.

••• ECONOMY.

TEACH children economy, both by precept and example. Economy is one of the main pillars of success and reputation in future life, as avarice is its bane.

The grand element, after superior talent and good sense, in the character of Washington, Franklin, the Adamases, and nearly all our revolutionary worthies and their predecessors, and with equal justice we may add, their successors also, was economy—economy in its broadest sense, economy of time, of opportunity, intelligence and advantages, equally with economy of money.

Without economy, Franklin would have had no time nor money to acquire the stores of information he had treasured up, and that stood him in such good stead in after life. Franklin agreed to board himself for half the amount allowed his fellow apprentices. He bought bread, raisins, and other simple, nutritious, and easily-digested food which he could eat without cooking. The consequence was, he had dispatched his meal in the printing office before they had reached their boarding house. All the remainder of the time occupied by the more laborious meal was by him devoted to those acquirements which subsequently delighted the literary and scientific world. What was saved from his food, furnished the only means he could command for the purchase of books. Thus half the money spent by his fellows on board, amply supplied him with both mental and physical food.

Had Franklin been the low-minded, needy gormandiser, dependant on any greedy schemer or paltry politician for the means to gratify a loathsome appetite, he would have succumbed to the popular clamor when almost universally assailed. But after inviting all his objectors to his frugal repast—a dinner of plain-boiled Indian pudding without dressing—of which he partook heartily, while their pampered stomachs turned from it with disgust, he showed them his independence of popular support, and that even then, he had purposed that self-dependant, *self-dictated* course, which was destined afterwards to challenge the admiration of both hemispheres.

The untiring activity, enterprise, and economy of Washington enabled him to devote the seven long years of the revolutionary war to his country's service, without pecuniary recompense. By the practice of these virtues, he had acquired the ability, largely to augment the gift

of a patriotism so opportune, and so almost indispensable to a suffering nation.

Arnold had his morbid, undisciplined, clamorous appetite to pander for; and without strong moral principle to uphold him, rapidly ran through a career of extortion, peculation, and robbery, till he was fitted for the last great leap into the abyss of infamy, long before prepared for him by the arch tempter, who had early and effectually taught him to *despise economy*.

It is said that the British emissary sent to treat with Marion, finding him sheltered in the almost impenetrable fastnesses of a swamp, and with his entire suite of officers dining on a few roasted potatoes, reported the hopelessness of assailing an enemy so independent of the conveniences of life, and threw up his commission, which could be only employed in the futile efforts of tyranny against a self-denying patriotism and virtue.

But leaving examples historically conspicuous, let us look at the every-day avocations of life. Examine the success of business men, in this or any other large city. How few of those, *to the manor born*, achieve independence by their own exertions. Reckon up all the successful men, whether as importers, shippers, jobbers, or retailers; examine any class of mechanics or artisans; look into the professions of the pulpit and the bar, of surgery and medicine; of artists, authors, publishers, and schemers of every hue and description, and nineteen out of twenty, if not ninety-nine out of a hundred, will be found to have been bred in the country, and early trained to hardy enterprise, patient endurance, and the most rigid economy. These are the elements of future prosperity—the only bases of success. This is the law of our being—an ingrain principle of our nature, without the early and constant practice of which, future achievement is as hopeless as growth without food, or vitality without air; they are indeed so essential that they should be taught and enforced even where there is no present necessity for their practice. Teach the little girls to economise their dresses, their school books, their pin money, and even the paper rags; and the boys their own little personal matters, and those pertaining to the farm, as economy in feeding the animals, economy in saving and supplying manures, economy in the application of hand, ox and horse labor to their various and appropriate duties, and we will guarantee to every child of good sense and sterling moral principle, thus educated, the greatest measure of success attainable in the sphere, occupation, and circumstances with which they may be surrounded.

••• COWS HAVE POWER TO HOLD UP THEIR MILK.

It is known to many farmers that, when young cows first come in, when the calves are taken away, they will hold up their milk for a short time, and some will almost dry themselves before they will give it down. A few years ago, I bought a young cow which proved to be very wild, and when I took away her first calf, she would not give down her milk. I had heard

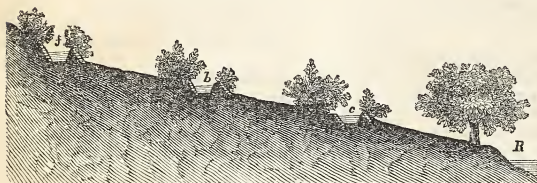
it remarked that putting a weight on a cow's back would make her give her milk down. I accordingly drove her into the stable, got a bushel of grain and put it on her back; but not being heavy enough, I took it off and put my elbows in the centre of her back, and bore on until she hollowed in her back.

While she was kept in this position, she had no power to hold up her milk; for it came down freely. After doing this a few times, and afterwards putting my hand on the back of the cow, it would give way, and she would immediately give down her milk.

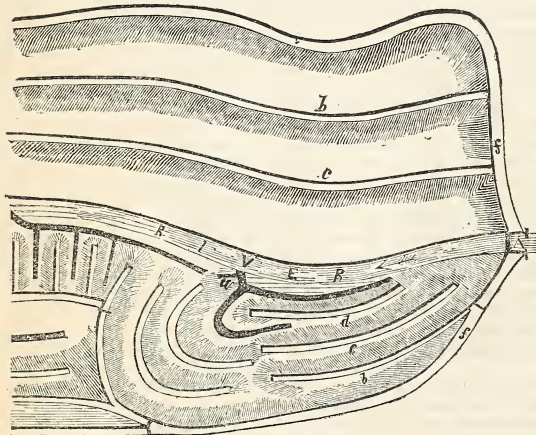
H. B. R.

Huntington, L. I., May, 1850.

IRRIGATION.—NO. 1.



IRRIGATION—VERTICAL SECTION.—FIG. 60.



IRRIGATION—GROUND PLAN.—FIG. 61.

IRRIGATION, in a general sense, is applied to the watering of the earth by inundation, by sprinkling its surface, or moistening it by infiltration, by means of rills or streams to increase its productiveness. The term, however, is usually confined to the operation of causing water to flow over lands for nourishing plants.

The artificial watering of the earth, chiefly to produce increased crops of grass, has been in use from a very early period. Frequent allusion is made to it in the Old Testament, and on the veracity of historians, we are led to believe that it has been practised by the Chinese and other oriental nations, as well as by the Mexicans and Peruvians, from time immemorial. In

Italy, especially on the banks of the Po, the cultivators have certainly employed this process for a period previous to the days of Virgil, and it is still carried on with a zeal and care worthy of the art they practise. Cato, the earliest of the Roman writers upon agriculture, (150 years before Christ,) enjoined upon the Italian farmers "to make water meadows, if you have water, and if you have no water, have dry meadows." The directions of Columella, also, who wrote more than 1800 years ago, seem to have all the freshness about them of a modern age. He was the first who noticed the inferior nutrition afforded by the hay from water meadows. "Land," says he, "that is naturally rich,

and is in good heart, does not need to have water let over it; and it is better hay which nature, of its own accord, produces in a juicy soil, than what water draws from a soil that is overflowed. This, however, is a necessary practice when the poverty of the soil requires it; and a meadow may be formed either upon a stiff or free soil, though poor at the time water may be let over it; neither a low field, with hollows, nor a field broken with steep rising ground is proper; the former, because it retains the water collected in the hollows too long; the latter, because it makes the water run to quickly over it. A field, however, that has a moderate descent, may be made a meadow, whether it be rich, or so situated as to be watered; but the best situation is where the surface is smooth and the descent so gentle as to prevent either showers or the rivers that overflow it, remaining too long; and, on the other hand, to allow the water that comes over it quickly to glide off; therefore, if in any part of the field intended for the meadow, a pool of water should stand, it must be let off by draining; for the loss is equal either from too much water or too little grass."

The whole art of irrigation may be deduced from the three following simple rules:—

1. To free the land to be irrigated thoroughly of water, by draining.
2. To give a sufficient supply of water during all the time the plants are growing.
3. Never to allow the water to accumulate and remain sufficiently long on the land to stagnate.

The general principle of irrigation, however, may be described as the supplying of every portion of the surface of the ground with an abundance of water, and taking it rapidly off again. In many localities, the great difficulty in irrigation arises from the want of a supply of water; but even then, a partial irrigation may

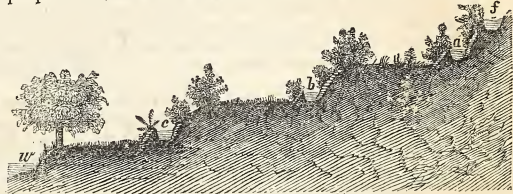
be effected, which, although not perfect, will have its advantages. A small rill, which is often quite dry in summer, by judicious management, may still be made to improve a considerable portion of land. Its waters may be collected and allowed to accumulate in a pond, or reservoir, and let out occasionally, so that none be lost or run to waste. If there is water only at particular seasons of the year, and at a time when it would not be of much use to the land, it may be thus kept in ponds, and will lose none of its qualities by exposure to the air. If animal or vegetable matter, in a partial state of decomposition, be added to this water, it will much improve its quality, and by a proper distribution of it over the land, a great benefit will follow.

The supply of water must come from natural lakes and streams, or from artificial wells and ponds, in which it is collected in sufficient quantity to disperse itself over a given surface. As it must flow over the land, or in channels through it, the supply of water must be above the level of the land to be irrigated. This is one of the principal objects to be considered. If no water can be conducted to a reservoir above the level of the land, it cannot be self-irrigated; but there must also be a ready declivity, or descent, for the water to escape, and therefore the land must not be so low as the natural level of the final receptacle, whether it be a lake, river, or sea.

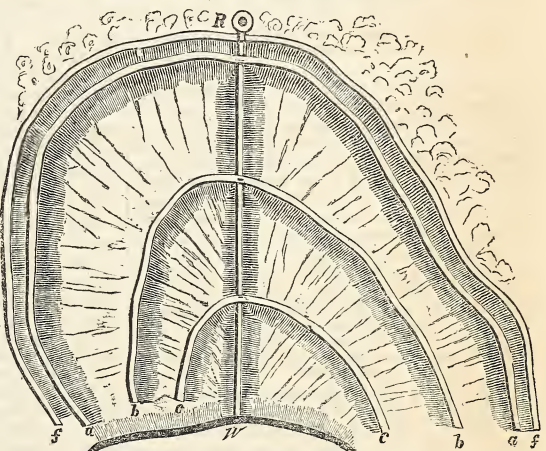
Along the banks of running streams, nature points out the declivity. A channel that receives the water at a point higher than that to which the stream flows, may be dug with a gentler declivity than that of the bed of the stream, and made to convey the water much higher along the sides of the valley, than the natural banks. It may thence be distributed so as to descend slowly, and water a considerable extent of ground on its way to rejoin the stream below the fall. This is by far the most common mode of irrigation, and the form, size, and direction of the channels are regulated by the nature of the surface and other circumstances, which vary in almost every situation. Let us suppose, for instance, that a river running with a rapid current between two distant hills, as denoted in Fig. 61. At the point A, of its course, a dam is constructed, and a portion of the water diverted into the feeders *f, f*, dug along the hillsides, with a slight declivity. The water in these canals will flow with less rapidity than that in the stream, but will maintain nearly the same level as that part of the river directly above the dam, at A. Thus the water may be carried over lands which are sit-

uated considerably above the bed of the stream, further down, and it is obvious that all the lands between these canals and the river, may be irrigated, if there be a sufficient supply of water.

With a given quantity of water at command, it may be conducted from these canals, or *feeders*, to smaller channels, lower down the sides of the valley, so as to irrigate the whole equally. These lower channels, *b, c, b, c, d*, should be nearly horizontal, in order that the water may overflow their sides, and be equally distributed over the land directly below them. Each channel should have a corresponding drain below it, running nearly parallel, to carry off the water; otherwise it might stop and stagnate. When the



IRRIGATION.—VERTICAL SECTION.—FIG. 62.



IRRIGATION.—GROUND PLAN.—FIG. 63.

water has run 20 or more feet, according to the declivity, over the land situated below the "feeder," or the channel which brings the water from above the dam, it should be collected in a drain to be carried off, unless it can be used to irrigate lands that lie still lower down, and finally discharge itself into the river from which it was taken at a lower point of its course.

Instances may occur, however, where there is not sufficient fall, or declivity, in the river or stream to enable the water to flow to any considerable elevation along the sides of the valley or hills. In such cases, if a fall of a few feet is at command, a portion of the stream can be elevated at a proper height and distance to irrigate

the intervening lands along the banks, by means of a hydraulic ram.

Again, there are other instances where broad dales or glens occur, through which descend brooks or rills, fed by living springs on the more elevated ground, that may be made to irrigate the parts of the declivity below. Or, if circumstances warrant the expense, in situations where no such streams are to be found, a well may be bored or sunk at or near the summit of the hill, the water raised by wind, steam or animal power, and distributed by means of a series of horizontal channels, situated one below the other, in a manner that the second may collect the water the first or uppermost has supplied, and in turn becomes a feeder to the third, and so on to the fourth, thus irrigating the lower parts of the declivity, until the last discharges itself into a river or waste ditch, and is of no further use.

In illustration of what is stated above, let *R*, Fig. 63, denote a reservoir or well, situated on elevated ground, at a convenient point on the side of a dale or glen; *f*, *f*, feeders, running horizontally around the upper part of the declivity, as far as the nature of the surface will allow; *a*, *b*, *c*, horizontal channels, situated one below the other, for catching the water, as it flows over the whole length of their margins, or sides, along the terraces or inclined planes into the "waste ditch," *w*, at the lowermost part of the glen; *R*, *v*, a "water way," having "stops," or gates, at the lower margin of each channel, for the expeditious conveyance of the water to every part of the ground, and also for the final discharge of what water might remain in the channels to prevent it from becoming stagnant.

With proper attention to levelling or grading the slopes, the construction of the channels, water ways, aqueducts, gates, hatches, waste drains, &c., the foregoing embrace the general modes of irrigation, as practised by the most enlightened nations of the present day. The manner of enriching meadows and rice fields, by inundation, will be considered in our next number.

RECLAIMING WORN-OUT LANDS WITHOUT MANURE.

We met an old friend, a few days since, on his farm, in one of the poorest portions of Connecticut. We last saw him there 20 years ago, a young man, commencing his farming career on some 150 acres of land, most of which was thoroughly worn out. We found him with about 300 additional acres of land, all of which had been added to his original 150, by his own earnings. The whole has been brought from its former condition of sterility to a fair productiveness, by his skillful management, without the aid of foreign manures. To our inquiry how he had effected so great a change, his reply was, "I have fed out the crops on the fields where grown." He had not sold off all his hay and grain, and thus kept his land barren; but, like a liberal and wise landlord, he had returned to his fields what legitimately belonged to them, and consequently augmented fertility has been the result.

CHEAP LANDS ON LONG ISLAND.

We neglected to call the attention of our readers to an article that appeared upon the cover of the *Agriculturist* last month, by Dr. Peck, in relation to some of the unoccupied lands of Long Island. We have heretofore spoken upon this subject, and shall probably advert to it occasionally hereafter.

Why emigrants should all be sent off a thousand miles to the west, when there is so much vacant land within a few hours' sail or ride of New York, is more than any one, we think, can answer. Both in this state and New Jersey, within from fifteen to fifty miles of this city, land can be bought for ten dollars an acre. It is true, the soil is light; but, by the application of marl, guano, and other manures, it yields large crops, which amply remunerate the intelligent cultivators for their labors.

THE COW PEA vs. CLOVER.—A writer in one of our late exchanges, after eulogising the cow pea very highly, caps the climax as follows:—"It is found that the cow pea answers every purpose, in southern culture that the clover does at the north. *As food for the human family, it is pre-eminently superior.*" No doubt of it. Since when, were the human family turned out to grass? We only know of one. We have heard of "pigs in clover," but never before understood it was considered valuable as "food for the human family."

There is no doubt in our minds, that the cow pea is of equal value to the south as a fertiliser, and food for stock, as the clover is at the north. The great wonder is, that it is not more generally cultivated.

HOW HORSES GET THE COLIC.—A boy, returning from work, with heated and sweating horses, to save himself trouble, allows them to drink copiously at some pool or stream he passes. Suddenly, one or more of the horses exhibit symptoms of gripe, suddenly lies down, rolls about, looks at his sides, rises up, seems relieved, and again speedily relapses. The sudden application of the cold water has produced spasms in the bowels, through which it has passed. This is neglected, or perhaps gin or whiskey, aided by pepper, is administered as a remedy, and severe and general inflammation of the bowels is the result; this is mistaken for another attack, and again the poison is administered, and the inflammation increased, and death follows.

Prevention.—See that the horses are walked home. A horse never ought to be rode nor driven out of a walk or slow trot, for a full half hour after eating or drinking.

CAST-IRON PIG TROUGHS.—In these days of iron, when it is substituted for wood so universally, we would like to know if cast-iron troughs have ever been used in this country for feeding hogs. They are quite common in Great Britain, and we have no doubt, if once introduced into the United States, they would be highly approved.

A CHAPTER ON VARIOUS SUBJECTS.

As I receive the different numbers of your journal, from month to month, I am reminded of a story once told me by a friend on the Mississippi River, of a Kentuckian, who, while travelling along a lonely road on horseback, came suddenly to a cross road, where he saw about a dozen men engaged in a promiscuous "scrimmage;" and, after trying a few minutes to find out what was going on, he remarked to the crowd, "As this seems to be a free fight, I'll have a hand in it," and jumped into the midst of them, hitting right and left, without any further ceremony.

As you have reminded your subscribers that the Agriculturist is a free field, I shall have something to say from time to time, upon what I may note in its pages, provided you think your columns cannot be more profitably occupied.

The amount of green corn fodder grown in England, stated in your January number, as being questionable, is not so very much beyond the amount raised in South Carolina, (see Allen's Farm Book, p. 154.) as to cause any reasonable doubt of its truth. The time, I think, cannot be far off, when this grain will be extensively grown in England, for soiling.

The species of silkworm to which you allude in your March number may be useful for the coarser kinds of silk fabrics, such as handkerchiefs, &c.; but they never will answer for ladies' dresses, the silk resembling tow, more than anything else. If any one here, seems disposed to go into the business, he need not send to New Orleans, as all the species quoted, (except *Bombyx laocoon*, which is from Barbary,) are very abundant about New York, living on the oak, sassafras, &c. We have, also, the *Bombyx regalis*, *B. imperialis*, and many more; but the larvæ are as long as the finger, very repulsive in their appearance, and the cocoons as large as a hen's egg. They may answer for some purposes, but never can compete with the common silkworm, (*Bombyx mori*), for ordinary silk fabrics.

I would like to see the person who put the article in the same number, about Jerusalem artichokes. I have been in the habit for some years of keeping a large number of fowls, and, in the winter, feeding them on boiled potatoes and artichokes. After boiling, the water was always poured off into a pail, a few handfuls of bran thrown into it, and then given to the cow. She seemed to relish it, and as she has had the same for three years, it must be a *very slow poison indeed*. The root, if well boiled, appears to be as good as the potato for cattle; but never having fed it raw, I cannot say how they would relish it. It is a most valuable root, and too much overlooked, but is almost impossible to eradicate from the soil, when it has got a good footing.

The article on the cause of the "yellows" in the peach, in the May number, is interesting, but erroneous as to its conclusions, for several reasons. One is, that the disease has never been recognised in Europe, notwithstanding the

quantities of American peach trees that have been sent there, nor is it now known scarcely, on the rich lands of the west, nor was it known in this neighborhood twenty or thirty years ago; whereas, every naturalist knows that the different species of xylophagous or wood-eating insects are found wherever the peculiar tree which they inhabit, is found, without regard to its location. Thus, I have met with the same species of *bostrichus*, *hylurgus*, &c., in the pine woods of Vermont, Virginia, Minnesota, and I have received them from Oregon and California. Considerable observation has led me to believe that the disease is a constitutional taint, arising from poor soil, the want of pruning, and good cultivation, for in no other way can we account for the disease being unknown in Europe. If the *tormicus* is the cause, it would certainly have been introduced long ago, and become as destructive there, as here.

I cannot drop this subject without expressing a hope that we shall often hear from Miss Morris, as it is only by close investigation, that we can ascertain the causes of many of the mysterious diseases of fruit trees, and vegetables, and every laborer in the cause, increases the prospect of success, especially when the investigator brings to her aid, the assistance of a good knowledge of entomology.

The article on the *baridius* in the previous number is quite an addition to our stock of entomological knowledge, as the perfect insects are generally found in marshy places, on flowers, &c., and not supposed to be injurious to us.

As I must have a "hit" at the "Captain," let me ask him whether he "guessed" M. H. Morris to be the signature of a lady. Hold up your head, and speak like a man Captain. You are not backward in poking your jokes at everybody, and must not take offence if you get some in return.

AGRICOLA.

Elizabethtown, N. J., June, 1850.

WIRE FENCE.

ONE of the correspondents of the *Prairie Farmer* states that one ton of No. 8 wire costs \$120 in New York, and will make a mile and a quarter of fence, sufficient against cattle and horses, and that he made fence of this sort at LaVaca, Texas, for \$200 a mile. He does not state what kind of posts he used. But if he made a fence for 62½ cents a rod, or less than four cents a foot, sufficient to stop cattle, there is no difficulty in fencing the great western prairies.

It is calculated that wire one eighth of an inch diameter, drawn tight, will sustain 750 lbs.

To prevent animals from jumping or running against wire fences, it is recommended to paint the whole white. Some persons put a wooden strip on top, which effectually prevents animals from unwittingly running against it, which is the greatest danger it is in, of being broken. The wire should be annealed, and of course will last longer if oiled or painted, and so arranged in the fence, by some simple contrivance, as to keep tight. Perhaps the plan designed in our last volume, to overcome contraction and expansion, is as good as any other.

EXHAUSTING PROPERTIES OF TOBACCO.

Our Maryland and Virginia friends will not be surprised to learn, from the rapid exhaustion of their tobacco fields, that this paltry weed requires more mineral manures, (salts,) to supply itself, than any other grown. The proportion abstracted is enormous, and shows conclusively, the necessity of constant and heavy manuring with *special manures*, to sustain the highest fertility of the land. By special manures, we mean such as are designed by their composition, to supply the appropriate food of plants, in the requisite proportions.

We have, for instance, in 800 lbs. of tobacco leaves taken from a field, 160 lbs. of mineral ingredients, (ash,) of which the soil is absolutely robbed, and which it has no means of again acquiring, but by direct application. This amounts to 20 per cent., or one fifth of the entire crop, and is composed, according to the analysis of Professor Johnston, of

Potash,	12.14
Soda,	0.07
Lime,	45.90
Magnesia,	13.09
Chloride of sodium,	3.49
Chloride of potassium,	3.98
Phosphate of iron,	5.48
Phosphate of lime,	1.49
Sulphate of lime,	6.35
Silica,	8.01

100.00

To supply these materials, ordinary farm-yard manure is insufficient; so, too, is lime or plaster or salt or any one article. It needs a combination of several, which are in a great measure to be found in ashes, combined with the ordinary manure of the farm yard. But if an application of special manures is sought, they will be appropriately found in the following proportions of the subjoined materials:—

Bone dust, sulphuric acid,	23 lbs.
Carbonate of potash, (dry,)	31 lbs.
Carbonate of soda, (dry,)	5 lbs.
do magnesia,	25 lbs.
do lime, (chalk,)	60 lbs.

144 lbs.

ANALYSIS OF COPROLITES—FOSSIL OR MINERAL GUANO—ITS VALUE FOR AGRICULTURAL PURPOSES.

This substance, existing in layers of rock or stone, and generally associated with others of various composition and texture; or sometimes as pebbles or coarse gravel, and more frequently mixed with other substances, forming marl, is beginning to be fully appreciated by the agricultural world. An analysis by T. J. Herepath gives, of water, 3.4; silica, 13.24; carbonate of lime, 28.4; *phosphate of lime, magnesia, iron, &c.*, 53.7, (equivalent to phosphoric acid, 26.6); sulphate of lime, 0.7, in every 100 parts.

This shows an invaluable manure, and about as rich in phosphate and carbonate of lime as the recent bones of the ox, when perfectly dry and deprived of their fat. These yield phos-

phate of lime, 56.75; phosphate of magnesia, 3.25, equivalent to phosphoric acid, 26.7.

English farmers are procuring and applying coprolites in large quantities, wherever obtainable. We have no doubt, valuable deposits of this mineral manure will be found in various localities in the United States, whenever our legislatures find time and money to train up and employ throughout the country, full and efficient corps of enterprising young geologists. If one tenth, or even one fiftieth the amount of men and money were devoted to this object, which are now employed in the arsenals of Springfield and Harper's Ferry, the U. S. naval depôts, and dock yards, in forts, camps, vessels of war, &c., we should soon have our fields groaning under their ripened harvests. But the time for the supremacy of sense and humanity—the higher destiny of our race, is not yet. We patiently bide our time, when Flora, Ceres, and Pomona shall bury Mars as deep under ground as many of the coprolites now lie.

This mineral is supposed to be the excretions of carnivorous reptiles, resembling our crocodile, myriads of which once occupied the chaotic waste of mingled mud and water, anterior to the creation of man, but which for ages have probably been extinct.

The presence of this decomposed phosphate is undoubtedly the cause of the great fertility of many portions of our western country, the valleys of the two Miamis, in Ohio, and those rich hemp, corn and grass-producing regions of Kentucky and elsewhere.

VALUE OF BONES.

It is sometimes said, that pasturing invariably improves the soil. This is not true, though it frequently does partially restore it, after severe cropping, to the extent, at least, of enabling it to bear better crops than the last taken from it. But that one or more of its fertilising ingredients may be abstracted, even to the extent of a considerable degree of impoverishment, is conclusively shown in the extensive grazing fields of Cheshire, England.

This is a favorite dairy region, which has given an enviable character to the cheese that bears its name. It has, for hundreds of years, been devoted to the pasturage of cows, whose milk has been converted into cheese, and sent to a distant market. Few persons would suspect, that the daily removal of those portions of the soil convertible into milk, must be felt in the soil, even after the lapse of centuries. Yet, the phosphate of lime, of which milk contains considerable proportions, is abstracted in such quantities, that the productiveness of those rich feeding grounds has been materially lessened.

The comparatively recent application of bones as manure, has been made on some of these fields, and with the most astonishing success. Professor Johnston says, that pastures which before this application, rented at 5s. per acre, have since paid 40s., and left the tenant ample remuneration for his labor. It is thus that the oft-derided discoveries of science, so richly repay their advocates.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

Drilled Turnips.—The same increase of crop may be seen in almost every kind of farm produce. Any large wheat grower would get pay for a drilling machine every year. Just go into the field at harvest time, and observe how even is the growth of drilled grain; all the stalks about the same height, with long, full heads; then contrast this with that sown broadcast, and I am certain that any man whose brains are not broadcast, will be convinced of the advantage of drilling wheat.

Hog Manure.—No doubt of it. There are a good many persons just beginning to find out that the manure made by a pen of hogs, well provided with materials to work upon, is worth more than the feed; but a great many other persons are just as ignorant of the advantage of keeping hogs in close confinement as the hogs themselves. They believe in "enlarged liberty" of all animals, and for that of swine in particular—they seem to have a sort of *fellow feeling*.

The Best Rotation of Crops is that which will produce the most profitable result; but that recommended by Judge Beatty will not suit all latitudes, although the deep plowing will suit every climate and soil, unless it is one of light sand, with a cold, sandy subsoil. Corn land should always be plowed deep before planting, and not during the growth of the crop, though the oftener the surface is stirred, the better it will produce.

Value of Lime, &c.—This is an admirable article. You give the difference in value between magnesium and other limestone, but as farmers most usually purchase the lime after it is burned, how are they to discriminate? In using oyster-shell lime, it should be recollected that a bushel of that is of less weight than a bushel of stone lime, and perhaps that is one reason why some have thought the other most valuable. It is certain, as a general rule, that magnesium lime, such, for instance, as that burned upon the banks of the Hudson, is the most valuable for agricultural purposes, and it requires a less quantity to produce the same effect.

Oyster-shell lime is much used in some places, and I am not satisfied that burning them does not consume the animal matter contained in new shells, to a degree that will balance any benefit obtained by burning; so that if they can be ground cheaper than burned, why, grind away. Only get the lime upon the land in some shape, and you will get benefit from it, I assure you, upon any soil not already charged with calcareous matter. But be careful and not make the mistake that hundreds of others have, by considering lime as a general or adequate manure of itself, without the aid of additional fertilisers. But it is the best thing in the world to assist you to get the full value of manure, or any inert vegetable matter in the soil. You say it is important that lime should be kept near the surface. But how is this to be done? If applied to the surface, of course it will be turned down at the next plowing. The best way to

apply lime, is to harrow it in upon wheat, at the rate of 40 or 50 bushels per acre, at first, and 30 bushels at the third, sixth and ninth years after.

A Valuable Southern Grass.—Glad to hear that any grass is considered valuable in the south. When I used to visit the plantations, there was one continuous warfare against everything that bore the name of grass.

The Air-Syphon Ventilator.—Let us have less theory and more practice. If it is so valuable, let it be tested fully, and results published, so that we may all follow suit. It is a legitimate subject for a premium at the "American Institute," unless its managers are too much absorbed in promoting the growth of big squashes, and turnips, or developing the latent energies of some manufacturer of fire crackers.

Discovery of the Cause of the Yellow in Peach Trees.—This is an article particularly commended to that class of persons who ridicule the idea of science as applied to agriculture. Here the labor of a scientific mind has been applied to make a most important discovery for the benefit of every one engaged in agricultural pursuits.

Decayed Grain Injurious to Stock.—Mouldy or damaged grain is probably more dangerous to feed to horses than any other animal, and least so to swine; their stomachs being constituted so much like human ones that they are able to digest almost as much miserable stuff as men do.

Merino Sheep in Virginia.—And why not Merino sheep in Virginia as well as anywhere else in the United States? Land is cheap, and Yankee farming will make it fertile; and there is as good a climate for sheep and shepherds, as could be desired.

Profits of Farming.—Look at this again, everybody, and everybody's neighbor, and if you don't feel ashamed of your own profits, I shall feel ashamed for you.

Imported Shorthorns.—Another bullfight. What will you bet which whips? Where is friend Sotham. I wish he would shove in the long-horns, by way of diversion.

Management of Animals.—First learn to manage yourself. The intractable temper is oftener in the man than in the brute, and he is often the greater brute of the two.

Treatment of Male Breeders.—A very short article upon a subject that has more need of discussion than almost any other in this journal. And why not speak out upon this subject? If the world is too fastidious to relish articles upon a subject of such vital importance, it is time their manners are mended. And why not "work male breeders?" Are the children of working men born with less vigor in their constitution, than those of the "pampered few?" The fact should never be lost sight of by man nor beast, that "like begets like," and that a little scrawny bull, boar, buck, or colt, (I came very near writing boy too,) will impress the image of himself upon his progeny. I wish some competent person would write a book upon this subject, and call things by their right names. It might

do this world good just now, to attend to the improvement and proper breeding and rearing of children as well as horses and cattle.

Home-Made Guano is a wrong title to a good article. It should have been headed, "simple directions for keeping a very necessary appendage to a decent household decent." It is too true that, as a people, we are ridiculously fastidious and disgustingly indecent about this really important matter.

Composition of Sprats.—The title of this article should have been, "value of fish for manure." The writer suggests a method of saving them when caught in great abundance. I suggest a better method. That is, to dry them, which could be done, probably, by steam, expeditiously and cheap; so that they could be kept and hauled into the country a considerable distance from the sea. When perfectly freed from all water, if they were ground into powder, the substance might be called "home-made guano," and would be what no other home-made imitation is, but something like the real article in value.

Thick and Thin Seeding.—I have nothing to do with the question, whether three, four, five, six, or twelve pecks to the acre is the most preferable quantity; but I have a word to say about one statement in this article. Pray, Mr. Cone, what part of Michigan produces "fifty bushels of wheat per acre?" If it is in Oakland county, I would like to know the particular lot, section, township, and range, and year it was done.

Cows are often Spoiled by Lazy Careless Milkers.—This sentence out to be printed on every milk pail in the land. Perhaps it would be better to say *always* spoiled.

Farm Fences.—This sensible article is worthy of re-perusal, for it is upon a subject more interesting to the American people than any political question now before them. At the rate of increase of our population, now going on, the time is, comparatively with the age of timber trees, very short, when the space occupied by them will be required for cultivation, and large tracts cannot be kept as at present, merely to furnish fencing stuff for the cultivated fields. What is to be the substitute? As shown by this article under consideration, stone can only be used to a very limited extent, and in districts where they abound; such a fence is a very costly one, and unless made in the very best manner, it is not durable, being so easily thrown down by frost. "Sod fences" are indeed, "desperate efforts," and utterly worthless. "For partly the same reasons, hedges have not succeeded," and for wholly the same reasons, they never will. All the hedges that have been tried in this country, so far as I can gather from the few that I have seen, and all that I have read of what others have seen, are of slow growth, and require fencing while growing; and need continually, much labor to keep them in order. They are liable to die and leave gaps, and never make a good fence against cattle, and are no fence against hogs. Like all other kinds of fence, wire, perhaps, excepted, they occupy

much valuable ground. What, then, is to be the fencing material? Shall it be iron? or will farmers eventually learn a little good, strong, iron sense, and begin to reason among themselves about the enormous amount of tax, self-leveled upon themselves, for the "free and independent" privilege of letting a few miserable cattle and mischievous hogs, run wild upon the public highways? I wish they could see France and Germany, and parts of England, how beautifully and economically they are cultivated without fences.

Railway or Endless-Chain Horse Power.—This is an article giving just commendation to a good machine, not quite so much of the *multum-in-parvo*, (much in little,) order as it would have been if the three columns had been compressed into one.

The Great Horned Owl.—Is it of the "short-horned" or "longhorned" family of cattle? I suppose the picture is introduced to show your readers "a new and improved breed of domestic poultry." "Hence it may be regarded as an extremely hardy bird," and I should suppose if judiciously crossed, upon the great Shanghae "rooster," or "crower," a new breed of "biddies" might be introduced, suitable for the Boston market.

Trimming the Ears of Horses.—Æsop tells a story of a fox that had a little trimming done in a trap, and then wanted the whole family to be trimmed in the same way. Carrying out the same idea, I would vote for a wholesome horse law, for serving every fellow that singed the hair out of horses ears, or mutilated their tails, exactly in the same way. To this proposition, no horse would say "neigh."

Successful Farming.—A little item in the "Editor's Table," under this caption, mentions a most wonderful result upon "seven acres of miserable, poor, sandy land," that induces me to ask that gentleman to write out a detailed account of the manner and cost of making such a great change upon a worthless spot, that we might determine whether the vast tracts of land lying within a few hours of the city of New York, utterly worthless and unproductive, could be improved profitably, to the condition of that mentioned, and make happy homes for thousands.

Profits of Dogs.—An outrageous libel. But every dog must have his day, and poor old Towzer has had his, so "turn him out, he has no friends," except

REVIEWER.

MICHIGAN LANDS.

THE rich lands of Michigan are being worn out. Our crops from year to year are growing less, especially wheat, the annual product of which is not one half so much per acre as it was when the land was first cleared; and, instead of attributing the failure to the true cause, not only the farmers themselves, but the editor of the Michigan Farmer charges it to the seasons.

When the farmers are told that the soil is exhausted of all the food for the wheat plant, they say it cannot be; for the straw grows as large as ever, but the grain shrinks; so it must be

the seasons. They cannot be made to believe but that the food for the growth of the straw and growth and perfection of the berry, are the same.

I have a farm containing 80 acres of improved land, which I have cleared with my own hands. It was heavy timbered land—soil clayey loam, and in farming it after the skinning system a few years, I found it wearing out; but by deepening the plowing from five or six inches to ten or twelve, on the first trial, the product was increased from 15 to 49 bushels of wheat per acre. The same results have followed subsequent practice.

The income of my farm, for the last year, was \$1,134; the farm expenses and those of my family were \$700 more, leaving a-balance of \$434, besides the improvements. L. C.

MANURES.—No. 2.

Sea Muck.—We were much amused a year since, at the unfathomable discoveries reported from the Irish bogs. These were deemed to be of such great magnitude, as to have elicited quite a discussion in parliament between some of its high officials. The question was agitated as to the formation of joint-stock companies, whose results were to rival the recently-found gold minds of California.

Naphtha, petroleum, olein, stearin, spermaceti, and various medicinal and other products of great utility in the arts, were to be spontaneously extracted from these long-neglected mines. Well, a year has since come and gone, and the bogs are just where O'Connell's Irish parliament is—still deep in the mire.

But, after all the "Bullicisms" connected with this project, the olein, stearin, &c., are still there—the mode of extracting them is the only thing wrong about it. If the "pizentry" would but first apply these accumulated stores of vegetable matter to the soil, the crops and animals feeding upon them, would, either by themselves or their *exchangeabilities*, supply all the alleged products, and a vast many more besides. Just the same value exists in the vast beds of sea muck already formed and daily forming over almost every part of the world. There is enough of these deposits in New Jersey, to fertilise no inconsiderable portion of its hungry and impoverished uplands. The same is true of most of our sea-washed coasts. Millions of wealth lie buried in every marsh and stagnant pool, which needs but half the capital and energy devoted to the exhumation of California gold, to develop equal wealth and with far more certainty.

There are various ways of compounding and applying sea or swamp muck to the soil. The simplest way, and one as generally profitable as any other, unless other fertilising matters can be made to spend better by the addition, is by throwing it up in heaps for partial drainage and decomposition before applying; or if the land be a hungry, silicious (sandy or gravelly) soil, apply it as soon as taken out of its bed, when sufficiently dried for economical removal. The sand will seize upon this new food with great

avidity, and will rapidly decompose and convert it into vegetable manure. The salt in all such as is exposed to the ocean tides, will add materially to its value for manure.

If the application is to be made to clays or adhesive lands, then the muck should first undergo partial decomposition. To effect this, several modes may be adopted. It may be most advantageously thrown into the cattle yards and pens, or privies, to absorb and become incorporated with the urine and droppings; or it may receive the wash of the house, the road side, the offal from slaughter houses, melters' shops, tanneries, woolen manufactories, and the like. In this way, it becomes decomposed and every way fitted for the greatest utility; but it also acts as an absorbent, or a strong box to hoard those soluble or volatile matters that would escape into adjacent rivulets, or evaporate in the air. The value of this material, when applied in this way, is incalculable, and it should always be used to the fullest extent of its useful agency.

But when at remote distances from the cattle yards, or it is wanted in quantities much beyond what can be prepared in this way, we have found lime, (unslacked, or quicklime), to be the most efficient decomposer of these muck beds. They are frequently filled with hard, fibrous, wiry roots and stalks, which might lie undecomposed for years in many compact soils. But when brought into contact with lime, all these, and similar matters are readily converted into finely-divided manure, which is capable, at once, of yielding its nutritious substance to the growing plant. This mixture may then be added to other manures or applied on any soils or crops with the utmost benefit.

DWELLING HOUSES OF THE NORTH AND SOUTH COMPARED.

THE construction of dwelling houses, a subject which really involves the comfort of the occupants for life, is often undertaken with as little consideration as building a rail fence. Notwithstanding a vast amount invested, it really appears in many cases, as though the builder never had a single idea that he was building for the accommodation of a family. The site, too, is often as illy considered as the plan of the building.

In almost all the northern states, the sole object seems to be, to get on the road. At the south, a better taste prevails, and the owner seeks his building site far away from any public highway; but in his building plans, he is as far behind the north as he is in advance in selecting beautiful sites, free from the dust and annoyances of a common highway.

ROUGH-HAired TERRIERS.

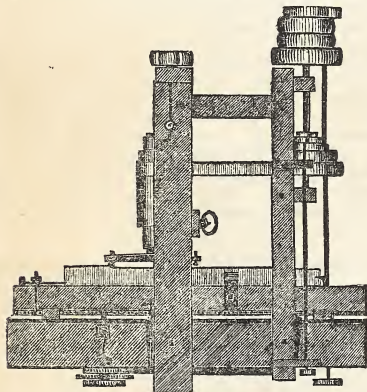
THESE are really the most useful of all the canine race. We often hear farmers complaining of rats, and in nine cases out of ten, when we inquire why they don't keep terriers, we are answered with a look of surprise and a "well, I guess they are not of much account, are they?" At the same time, probably, you will see three or four great lazy, worthless curs prowling

about the house, which we "guess are not much account;" but we know that the real wire-haired terrier is worth his weight in gold, real California gold, upon any farm that is infested with these destructive and filthy vermin, rats.

The ingenuity and perseverance of these dogs in hunting and killing their prey, is such as to convey to us the idea of a very elevated degree of intellect. They are also very useful as house watch dogs, and possess a kind and pleasant disposition, and most untiring industry in their line of usefulness. We recommend our readers to provide themselves with terriers, and kill off some of their miserable mongrel curs.

PLANING MACHINE.

This machine is valuable for planing all lengths, widths, and thicknesses of joists, plank, and boards, various kinds of mill work, and other parts of work for machinery, plows, &c., &c. It will plane hard or soft wood equally well and with great rapidity. They have been used for many years with entire success through various parts of the Union. There are several sizes to plane different widths and lengths.



PLANING MACHINE.—FIG. 64.

VARIETIES OF THE ANIMAL AND VEGETABLE CREATION.

THE researches of naturalists are day by day, adding to our stock of reliable information on the interesting subject of the numbers, varieties, and economy of the animal creation. Ray, who wrote in 1690, set down the amount of *beasts*, as he called them, including *serpents*, at 150; saying, "not many of any considerable bigness in the known regions of the world had escaped the cognizance of the curious." Buffon said at a later date, "All the four-footed animals may be reduced to 250 pairs, and the birds to a still smaller number." Instead of the 150 of Ray, we have over 1,500; and the 500 of Buffon exceeded 9,500 individual species, over 8,000 being birds.

Of reptiles, there are about 1,500 already known. Neither toads, snakes, nor ophidian reptiles of any kind are found, it is said, in Ireland.

Fishes are of much more numerous variety than any other vertebrate animal, exceeding 8,000, and almost daily accessions are making to this class.

Of the invertebrate, the varieties are almost countless. In one class of these, the insects, more than 100,000 species have been preserved in cabinets, and more than 200,000 are known to naturalists. The actual number, probably, exceeds half a million!

Besides these, we have the moluscous classes, shell fish, cuttle fish, snails, &c.; the articulated, such as leeches, lobsters, crabs, earth worms, and the like; the radiate, such as the star fish, polypi, coral, madrepores, sponges, &c.

How creation expands upon intelligent research! Whether viewed by the telescope or microscope, we behold increasing worlds, beyond our natural vision. The former brings successive strata of nebulae to view, each formed of myriads of distant suns, the probable centres of systems like our own; the latter finds successive myriads of insects, constantly decreasing in magnitude. How innumerable the yet unexplored varieties of these may prove, future naturalists may approximately determine, but we can hardly appreciate.

Humboldt, only a few years since, reckoned the number of plants, 44,000; but later observers carry up the number of ascertained varieties to 100,000. That this is only the commencement of their enumeration, must be apparent to any observing man, who considers the extent of countries yet unexplored, the superficial examination of those already known, and the countless varieties of minute or animalcular plants. A moment's reflection will thus convince us, that the science of the naturalist, equally with that of the chemist and geologist, is yet only in its infancy.

TAKE TIME BY THE FORELOCK.—Neighbor, your field is all growing up to bushes; it takes you longer to mow around them, than it would to mow over twice the ground they occupy. Why don't you cut them? "Well, that ought to be done, I know, but somehow or other, I can never get about it." That is the way of a great many farmers. There are rocks, bushes, and stumps that obstruct their labors, and should be removed. There is a swamp that should be drained. There is an old brush fence that should be replaced by a stone wall, rail or wire fence. There should be some gates made, and a great many things ought to be done; but "somehow or other, we can't get about it. All that is wanting is a little resolution to commence the work, and energy to complete it, and the improvements are made.

HUSSEY'S MOWING MACHINE.—Late improvements, made by the inventor, render this machine highly worthy the attention of farmers. Let a number of neighbors club together and buy one the present season, and if found to answer the purpose, as well as we believe it will, they will each be ready to order one another season.

EXPENSIVE MANURING.

It is an almost universal practice in the southern parts of Virginia and North Carolina, to scrape out the fence corners of old fields, and in moving or rebuilding, to rake up all the roots, weeds, leaves, grass, and soil of the fence row, and haul them on the land for manure. Two thirds of the mass is nothing but sand, and two thirds of the other third is soil, no better than that of the land upon which it is to be applied. It is true that these fence scrapings are a little better than nothing; but still, not worth the labor, and are the most expensive manure ever used.

If the hands, to say nothing about the team, were put to work at 25 cents a-day and that money laid out in Peruvian guano, and applied in place of this fence-row manure, it would produce four times the effect. And yet, although this statement is wholly true, we do not expect it will be believed, nor that one in a hundred will try the experiment to prove its truth, so obstinately are farmers wedded to old habits, however erroneous.

NEW SAW MILL.

A MORMON, at the west, has invented a new saw mill, which is propelled by the weight of the log to be sawed. The saw is so made as to require no setting, and we presume runs in such a manner as to file itself. It is all placed on wheels, which are undoubtedly carried forward, (to any part of the woods, where the best saw logs are to be found,) by the action of the machine.

This is a good deal like a new potato-raising system, broached a year or two ago, in which the seed was placed on a rock, and covered with fresh straw. The advantages were, no plowing nor cultivating, and clean planting and digging. What the yield was, is not stated.

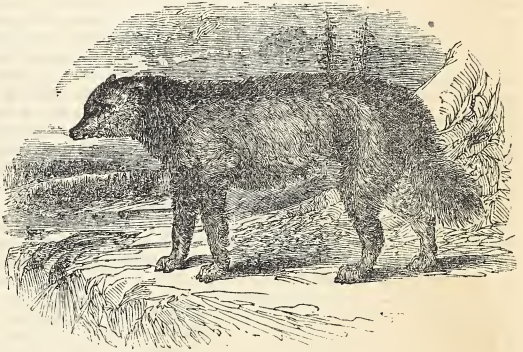
The only match for these, and several other important improvements we have seen, is the modern society for social advancement, where the committees are overrun with comforts, happiness, and wealth; where there is neither hard nor dirty work to do; where, in short, everything belongs to everybody, and all have just what they want done for them, without doing anything themselves.

CRANBERRIES.—Who has raised this delicious fruit with success, in the neighborhood of New York? We don't think beavers, muskrats, nor the fox and lynx tribes, can be reared with much profit for their skins, as was once attempted; but we see no reason why cranberries may not be raised as advantageously as any of our cultivated fruits. There are thousands of acres of worthless swamps within a hundred miles of the city, that might be made to produce a handsome income if set in cranberries. Who will begin?

THE AMERICAN BLACK WOLF.

THE American black wolf, (*Canis nubilus*), although less common than the other varieties, is considered more dangerous and ferocious, sometimes making sad havoc among sheep and lambs. It is found more or less abundant throughout the wooded districts of the Canadas, the northern states, and of the entire Alleghany range, to their termination in Georgia.

The length of this animal is about five feet, eight inches, of which the tail occupies one foot, eight inches; the height at the fore shoulders, about two feet, three inches, and the girth of body about two feet, seven inches. The general color of the body is brownish-black, somewhat mottled with darker shades; the belly, much lighter, with a broad stripe of black, undefined at the edges, running up the breast; the back, blackish, very slightly mottled with white, caused by the intermixture of different hairs; the body is covered with a soft, thick down, light-grey at the roots, and brownish-grey at the end; besides this fur, there is likewise a longer hair which is the general color of the animal; this



THE BLACK WOLF.—FIG. 65.

hair on the back is white at the roots, then black, then pure white, then black again at the tip, giving a speckled appearance to the back. The tail is large and bushy; the hair long, loose, and nearly black, as also is the throat and breast. The feet and legs are black; the hair on the front of the legs close, bristly, and shining. The head is black with the face covered with short, close hair; the nose pointed, small, and black; the ears short, pointed, and upright.

The black wolf is much stronger than a dog of the same size, and his mode of biting is very different from that of a dog. Instead of retaining his hold, like a dog, when he seizes his enemy, he bites by repeated snaps, given, however, with great force, often lacerating the flesh a foot or more to each jerk. Like all carnivorous animals, his thirst for blood is irresistible, and he often kills his victim without de-

vouring the carcass, drinking the blood, the only part agreeable to his palate. When pressed with hunger, he destroys every other creature he can master, and it is believed that, during the year, he consumes, at least, thirty times his own weight of animal food, which, in cultivated countries, renders his injurious character more apparent, from the large number of domestic animals he necessarily must slay. In winter, when the ground is covered with snow, and he finds his prey to be scarce in his natural haunts, he becomes exceedingly bold, intrudes into the sheep folds and pigsties, and even into villages or populous towns, in quest of food.

In several states of the Union, laws have been enacted and bounties offered for the destruction of wolves, varying in amount according to the age and sex of those killed.

Hence, when considerable havoc has been made among sheep and calves, a general turnout of a neighborhood is summoned, who proceed to the wood or swamp where the wolves are supposed to harbor by day, armed with guns, pitchforks, or clubs. They then separate, surround the swamp, and travel towards the centre, lessening the circle as they proceed, and searching every hollow log and dense clump of bushes or ferns, as they proceed, until at last they dispatch the object of pursuit. But the more ordinary method of capturing wolves is in winter, by means of a steel trap. It has been found, however, that the most successful method of destroying them is, to drug small sausages with strychnine, or nux vomica, and hang them on the boughs of trees, at such a height, that the wolf must leap to obtain them. Under these circumstances, the animal swallows the bait at once, and has not time to find out that it contains any suspicious admixture, which he often does, if the poison be applied to the carcasses of sheep, horses, &c. Another mode of poisoning them is this: The kernels of nux vomica are grated or powdered, then mixed up with three or four times their bulk of fat, or grease, and honey, (wolves are very fond of the latter,) and made into balls about as large as a hen's egg. These are placed in the woods, covered with a piece of flesh or tripe, and some offal is hung on a tree near the spot, to attract the wolves by its scent. The poison once taken, is sure to prove fatal, before the animals can proceed many rods.

GREAT MILKING COWS.

Mr. Sheafe's Herd of Shorthorns.—It is very important to farmers generally, and especially to those engaged in the dairy, to keep such cows only as are good milkers. It costs no more, and frequently not so much, to support a good milk-er as a poor one; and the profit on the one, is often double, if not thrice as great as on the other. In Mr. Sheafe's herd, advertised to be sold on the 29th of August next, will be found the desired qualities of deep milking and good butter cows, as well as aptitude to fatten and make good flesh the moment they are dried off

for this purpose. Cream Pot, one of the founders of this herd, gave, in her prime, and in the best of the season, 36 quarts of milk per day, which made at the rate of 18 lbs. 6 oz. of butter per week. Lucilla gave 29 quarts per day, and made 15 lbs. 3 oz. butter per week. Celeste, Venus, Beauty, Phœbe, and Dahlia gave from 25 to 33 quarts of milk per day, and their descendants, now principally forming the herd, are nearly as promising. The heifers and cows, from three years old and up, now give from 15 to 27 quarts of milk per day, in the best of their season. These quantities have not been guessed at, but were made subject to actual measurement in our presence.

Complaint is occasionally made against short-horn cows, that they run too much to fat, at the expense of their milking qualities. We candidly acknowledge, that, in consequence of some of the English breeders caring more for beef than milk, they have bred for the former rather than for the latter quality. The result is, that those who have purchased and imported without inquiry, have occasionally met with disappointment. They thought, as a matter of course, that they had only to get a shorthorn cow to be sure of a good milk-er. Wherever shorthorns have been bred with reference to milking qualities, no other breed of cattle has ever equalled them; at the same time, when dried off to fatten, nothing takes on flesh so rapidly as they do; nor is their flesh of so good a quality. We are now speaking of *well-bred* shorthorns, not the coarse grades, which, in such numbers, are called so by the public at large in England and this country.

CARBONATE OF AMMONIA IN THE ATMOSPHERE.—Graeger says, that 5,000,000 lbs. of air contain 3 lbs. of carbonate of ammonia. Kemp obtained at the rate of nearly 39 lbs. from the same quantity of air. Fresenius could detect but one half the proportion found by Graeger. The atmosphere yielded, in the experiments of Fresenius, 70 per cent. more ammonia at night than through the day. The proportion of ammonia in the atmosphere is undoubtedly very variable, dependent upon a great variety of circumstances.

If you can create a spirit of emulation, (or at least content,) among your laborers, you will secure much more work, with less trouble to yourself, and really less injury or effort to them. Whenever the mind is at ease, the sufferings of the body are small. Carry an agricultural paper or book to the field, with your lunch, and take a bite from the former to replenish the mind, as you do from the latter to strengthen the body.

PLANT SOMETHING.—If you have no garden spot, dig a hole in the pavement and plant a vine or rose bush, or fill a tub or box with earth, and plant it with flowers; or manure it with a sixpence' worth of guano, and raise a dollar's worth of cucumbers or tomatoes.

Ladies' Department.

A VIRGINIA HOUSEWIFE.

SOME of our northern readers suppose that all at the south, entitled to the rank of *ladies*, never take upon themselves household cares; that is, none of them are housewives, in the sense which they are quaintly described in Tusser. A housewife

"Who seemeth in labor to equal the pains
Of husband who striveth to bring in the gains."

and again:

"Though in field good husband it is needful should be,
Good housewife within is as useful as he."

Just such a one, at least, is one of my Virginia acquaintances. She is a lady in every acceptation of the word—wife of a wealthy gentleman who resides in one of those elegant mansions upon the banks of James River, upon one of the six first-settled estates in the ancient colony of Virginia. Notwithstanding she has numerous servants to do her bidding, yet no matron of a New-England farmhouse is more of a housewife than this lady.

On a recent visit to this most lovely and interesting family, I found the lady in her kitchen, personally superintending the operation of putting up the lard of fifty porkers, for family use—a duty as she assured me, which she had not failed to attend to but once while she had been mistress of that house, and in all the time, never had failed to have sweet lard at all seasons, the great secret of which lies in personal superintendence, to know that it is cleanly rendered and well cooked, and put up, not too hot, in sweet tubs, (oak is the best wood,) or good stone jars, and these put away in a cool place. True, the time has not been a very long one, for she is yet a young, as well as a very handsome housewife; but she has been the mother of *nineteen children*, thirteen of whom are living, and every morning "rise up and call her blessed." Need I add that the children are an honor to such a mother, or that her noble husband "knoweth and esteemeth his treasure," as a good wife always is a treasure to him who deserveth her?

"Now out of this matter this lesson I add,
Where ten wives are better, ten more are more sad."

And this is not a solitary instance, but a fair sample of the way in which the highly-educated, polished ladies of southern planters "Looketh after the ways of their own household." The exceptions are among those who have been spoiled, (not educated,) in fashionable boarding schools.

SOLON.

A NICE TEA RUSK—GOOD HOT OR COLD.—Beat seven eggs, and mix with $\frac{1}{2}$ pint new milk, $\frac{1}{4}$ lb. melted butter, $\frac{1}{2}$ pint of yeast, 3 oz. of sugar, and stir in gradually as much flour as will make a very light paste; set it before the fire to raise half an hour, and then add flour, and form flat loaves or cakes; bake moderately, cool, cut in slices, and brown them in a hot oven, and eat hot or cold. Some use caraway to flavor with.

POTATO BREAD.—Take potatoes, boil them until thoroughly done, peel or skin them, and then mash them up as fine as they can be made. Add a sufficient quantity to your yeast and flour, make into dough, and bake. This is not only more economical than the bread made of all flour, as it takes less flour; but it also makes superior bread, and one that continues soft much longer. The sweet potato makes a most delicious bread when thus used, and superior to that made by the common potato. The toast made from this bread is much softer, sweeter, and superior to that from bread made in the ordinary manner. Sweet-potato biscuit are excellent, but not so healthy as bread.—*Ex.*

NEW PATENTS.—A patent has lately been taken out for making clothes pins. Think of that washerwomen. Another for a machine to wash dishes. Think of that lazy girls, who fear to soil your hands with the dishcloth. Another for an improvement in sewing machines. Think of that ladies. No patent has yet been granted for spinning street yarn. Think of that gossips. An old bachelor looking over my shoulder says this is a natural attribute of the sex. S. R.

FISH SAUCE.—Slice sour apples and tomatoes, $\frac{1}{2}$ lb. each; salt, sugar, and raisins, $\frac{1}{2}$ lb. each; ginger and red chillies, 4 oz. each; garlic and shallots, 2 oz. each. Make all fine, and add three quarts of vinegar and one quart lemon juice; agitate it often for a month, and then pour off and bottle. Used hot or cold for fish, meat, stews, &c. The thick part may be used in stews, soups, and chowders.

FEATHER BEDS should be aired once a week. Yes, and always in the crater of Vesuvius, or some other fire that would be sure to destroy them, for few things are more unhealthy to sleep on, especially during hot weather. They exhaust instead of invigorate the system.

AN EXCELLENT RELISH SAUCE.—Mix 1 oz. each, of ground black pepper and salt; $\frac{1}{2}$ oz. each of ground pimento, scraped horse radish, and minced shallots, in one pint of walnut, mushroom or tomato catchup; let it stand two weeks, and then strain and bottle for use.

ICE CREAM.—Use two pounds of loaf sugar to four quarts of cream. To flavor with vanilla, boil a bean and a half in milk. With lemon, grate three rinds, or add six drops of oil. If the cream is good, it will make seven quarts of ice cream if well beaten. Use two quarts of salt in an eight-quart freezer. R.

TO MAKE PANCAKES of broken bread, soak it all night in milk, and break it up fine, and add eggs and flour to give it consistency. It makes excellent cakes. Try it.

WASHING FLANNEL.—White flannel can be washed without shrinking, if it is always done in hot water. Use none but good soap.

BREAD PUDDING is one of the best that is made, and then it is such a saving of the broken bread.

Foreign Agricultural News.

By the steamer *Cambria*, we are in receipt of our foreign journals to 8th of June.

MARKETS.—*Ashes*, in limited demand. *Cotton*, as per our last. There is so little change in all other American exports, that we find nothing more worthy of particular remark.

Death of Gay Lussac.—M. Gay Lussac, the celebrated chemist, died in Paris, on the 9th of May.

To Kill Cockroaches.—Sink in the floor of the room a common basin, partly filled with beer. They will tumble in by hundreds. After persevering nightly for a few weeks, you will reduce the number to nothing; provided you kill with boiling water all that you catch. This should be done every morning.—*Gardeners' Chronicle*.

Adulterated Guano.—There are places near London where loam is sifted, and dried till it looks like guano. We could lay our hands upon a gentleman who has found a California on a hill side, so ample is the harvest of gold which he digs up. He is said to have a contract with one house for 30 tons of loam per week, at 20s. a ton—a little revenue of something like a thousand a year, after paying expenses. A field of loam, assisted by a few such contracts, is, we suspect, a better placer than Sutter's mill itself.

Must we again for the hundredth time, inform the world that guano doctoring is a trade? and a very great one too; that, with the exception of what is procured from the only importers, or from their authorised agents, all guano is falsified? and that a substance, the cost of which, when bought by the cargo, is £9 5s. per ton, cannot be sold for less, except by rogues? Yet it is notorious that "fine, genuine Peruvian guano" is offered all over the country at a much lower price. A few circumstances that have come to our knowledge lately may explain how this is managed.—*Agricultural Gazette*.

Proposed Analysis of the Potato Plant.—It would be most interesting to farmers and gardeners, if some scientific persons would make an analysis of potatoes under various circumstances; 1st, when thoroughly ripe and fresh from the soil, after drying two or three days; 2d, after having been allowed to heat in a bury; 3d, when they have sprouted half an inch in the spring, previous to planting; 4th, the same description of potato kept under cover during the winter, and turned frequently, to prevent both growing and heating.—*Ibid*.

Growing Vegetables on Railway Embankments.—It has occurred to us, that vegetable marrows, gourds, pumpkins, and even cucumbers, (if really useful,) might be profitably cultivated on railway embankments; in addition to some gain, such plants would produce an agreeable appearance on the embankments, and there can be no doubt that on south aspects, at least, they might be grown in perfection. They should be planted on well-cultivated grounds, about a yard apart, on the summit of the banks, and allowed to grow with their heads downward.—*Ibid*.

Death of Dr. Corda.—It is with painful feelings that we announce the untimely death of Dr. Corda, of Prague, who perished at sea on his return from Texas, where he had been residing ten months, during which, he had made many valuable collections and observations that, we fear, are now entirely lost to science. Being a man of very varied talents and by no means a mere botanist, he had been employed by the emperor of Austria to report on the Industrial Exhibition at Paris in 1844, where we had the pleasure of his society for some time; and a high sense of his abilities induced the Prince Coloredo to select him, as a fit person to

conduct a large party of emigrants to New Braunfels, in Texas, where the Prince was about to establish a colony.—*Agricultural Gazette*.

The American Churn in England.—The American new churn, patented in England, which was exhibited at the Mansion House, on Easter Monday, was again shown, a few days since, at the Ship Tavern, Waterlane, Tower street, in presence of several gentlemen connected with the butter trade, and Dr. Ryan, of the Polytechnic Institution, when from four quarts of cream and two quarts of London sweet milk, it produced five pounds of butter of excellent quality and flavor. The result elicited unqualified approbation from the gentlemen present.—*Ibid*.

Sale of Mr. Bates' Shorthorn Cattle.—This great sale came on on the 9th of May, at Mr. Bates' late residence, Kirklevington, Yorkshire. It is estimated that from 3,000 to 5,000, persons were present, a larger number than were ever before congregated on a similar occasion. The catalogue contained 48 cows and heifers, and 22 bulls, making 70 head in all. The sale went off with spirit, but the prices obtained were not so great as anticipated. The highest was 205 guineas, (\$1,025,) and the average of the whole herd, was 63 guineas (\$315). We shall give full particulars in our next. Here is another evidence of the estimation, in Great Britain, of the shorthorn breed of cattle. If we could get half these prices in the United States, we should feel better satisfied; and yet, they would hardly pay a choice breeder for the time, talents, and capital, necessary to be devoted to the business.

To Destroy Ants.—Various plans have been already proposed for the destruction of these insects. Rags, well saturated with turpentine thrust into the crevices where they abound, will certainly destroy them, as also will oil, if it come in contact with their bodies. Dr. Bostock found lime very servicable in expelling them, and water, in which the outer green skins of walnuts have been soaked, has been used with success; salt has also been stated to be objectionable to them. One of the simplest and most effectual remedies is to lay wide-mouthed bottles in their tracks, or near the mouths of their burrows, placing bits of raw meat within. The ants will greedily attack the latter, and may be destroyed from time to time by shaking the bottle over hot water.—*Dr. Westwood*.

The Stanwick Nectarine.—The original tree of this variety is in the possession of the Duke of Northumberland, at whose seat, at Stanwick, it has borne fruit for several years, and from which it derives its name. The duke received it from the late Mr. Barker of Suædia, in Syria, a gentleman whose attention has long been turned to the acquisition of the finest fruit trees of the East, in the hope that they might be valuable in his native country.

In excellence, the Stanwick nectarine is as far beyond all other nectarines as a green-gage plum is beyond all other plums. Beyond this, praise cannot reach. It may, nevertheless, be as well to repeat on the present occasion, what we stated some time since, when the high quality of this nectarine had first become perfectly ascertained.

"The nectarine forming the subject of this notice is about the size of an Elruge, and like it in shape, except in being less heart-shaped at the base. Its skin is pale, like that of the white nectarine, where shaded, with a violet tinge next the sun. The flesh is white, exceedingly tender, juicy, rich, and sugary, without the slightest trace of the flavor of prussic acid. The stone is middle-sized, ovate, with rather a prominent sharp edge, very rugged, and of a chocolate color. The kernel is sweet, like a nut, possessing nothing of the bitter-almond flavor.—*Gardeners' Chronicle*.

Editors' Table.

TO SOUTHERN SUBSCRIBERS.—It has been discovered that one of the letters of Solon Robinson, containing the names of subscribers, miscarried. We believe papers to all have now been sent; if not, we will forward them at once on being informed. Money paid to Mr. Robinson, on account of the *Agriculturist*, at any time, will be credited by the publishers.

GREAT SALE OF SHORTHORN CATTLE.—We desire to call particular attention to the sale of the valuable herd which is to take place, without reserve, on the 29th of August next. Some account will be found of the great milking qualities of the cows, on p. 226 of the present number. The bull Exeter, used in the herd this season, was imported last year. He is of the Princess tribe of shorthorns, the *only* bull of this tribe ever brought to America. The breeding of this tribe of cattle can be traced back upwards of 250 years. We think Exeter one of the best bulls ever brought to the United States.

GIVING CREDIT.—In looking over our late exchanges, we have had our faith in editorial honesty sadly shocked at seeing how unblushingly our articles are copied, without credit. But, occasionally we meet with an item like the following, from the "Germantown Telegraph" which is one of the best family papers upon our exchange list:—

"We last week inserted a communication from our able and attentive correspondent, 'A Practical Farmer,' on the subject of curing hay, but as the subject is an important one, we annex the following article from the *American Agriculturist*, a publication which is ever intelligent and practical upon all matters connected with the interests of the farmer." Now this is something like credit, honestly intended and fairly given. We intend to maintain the reputation accorded to us by continuing to give our readers articles both intelligently and practically.

POSTAGE ON THE AGRICULTURIST.—We occasionally hear of some mistaken mortal charging *pamphlet postage* on this paper; and as we intend sending it out with a loose cover, or wrapper, containing advertisements, we deem it necessary to call the attention of post masters, to the post-office law, defining what is a newspaper, namely: "A publication issued as often as once a month, on not more than two sheets of paper, whose superficial area, united, does not exceed 1,900 square inches, and giving intelligence of passing events;" and this is precisely what the *Agriculturist* is, and is only subject to newspaper postage. The form in which it is folded has nothing to do with postage, unless stitched and cut, and then it would be a pamphlet. As it is sent through the mail, it is a newspaper, and has been so decided by the Post-Master General.

ELEMENTS OF SCIENTIFIC AGRICULTURE, or the connection between science and the art of practical farming, by Professor John P. Norton, of Yale College. Albany, Erastus H. Pease & Co. This is a plain, practical treatise on a most important subject. The farmer will not be misled by any specious or half-developed theory in the above work; but he will find a brief and reliable exposition of some of the most important principles in his occupation. We cordially commend it to general perusal.

PICTORIAL FIELD BOOK OF THE REVOLUTION, by B. J. Lossing. Harper & Brothers. We have received the first two numbers of the above, which are beautifully illustrated by numerous wood engravings, mostly original, and all appropriate to the work. The author takes us over the various camp grounds of the revolution, and makes us familiar with many of its most in-

teresting scenes and incidents. We especially commend this book to the young, not only for the agreeable information which it imparts, but for the enthusiastic patriotism and love of American character it is likely to foster.

EXHIBITION OF THE MASSACHUSETTS CHARITABLE ASSOCIATION, for the Encouragement of Manufactures and the Mechanic Arts.—The sixth exhibition of this institution will be opened at Faneuil and Quincy Halls, in the city of Boston, on Wednesday, September 11th, 1850. To enable the managers to make such arrangements of the goods as will be satisfactory to the contributors, it will be necessary that all articles intended for exhibition be entered by Saturday, the 7th of September. An invitation has been extended to the President of the United States to visit the exhibition, that he may have an opportunity of witnessing the extent and perfection to which manufactures and the arts have reached in this country.

THE CULTURE OF RICE.—Rice was first planted in South Carolina about the year 1688. In 1725, some 1,700 casks were exported. In 1801, the export had increased to 64,789 casks; and, in 1848, the amount sent from Charleston was 116,023 tierces of 600 bushels each, or 96,612,800 lbs.

MICHIGAN WOOL.—The Detroit Tribune thinks that the surplus of wool to be shipped from Michigan this season, will be 1,700,000 lbs.

ALABAMA CASTOR OIL.—The Mobile Tribune says: "Six barrels of castor oil, from the plantation of Robert Dickens, Perry county, were received on Tuesday, and sold at \$2 per gallon. The quality of this oil is superior to any brought to this market. E. R. Carlisle has already sold, this season, for Mr. Dickens, some fifty barrels of castor oil, at prices ranging from \$2 to \$2.50 per gallon. The complete success of Mr. Dickens, in this new branch of industry will probably induce others to embark in it."

GROWING PEPPERMINT.—One town in Michigan had 960 acres in cultivation last year, which gave \$16,775 worth of oil.

ROSACEOUS PLANTS COMPARATIVELY OF RECENT ORIGIN.—Professor Agassiz, in a lecture upon the trees of America, stated a remarkable fact in regard to the family of the rose, which includes among its varieties not only many of the most beautiful flowers which are known, but also the richest fruits, such as the apple, pear, peach, plum, apricot, cherry, strawberry, blackberry, raspberry, etc.; namely, that no fossil plants of this order have ever been discovered by geologists. This he regards as conclusive evidence, that the introduction of this family of plants upon the earth was coeval with, or subsequent to, the creation of man, to whose comfort and happiness they seem especially designated by a wise Providence to contribute.

THE HEN FEVER.—Few are aware of the extent to which the hen fever is now raging among our amateur farmers. The California fever sinks into insignificance when compared with this. Choice hens are now imported for breed. A few days since, an invoice of thirty-five pure Dorkings, came in the Robert C. Winthrop, from Liverpool. The merits of the Guelderland, the Dorking and the Cochinchina are daily discussed in the railroad cars, and at our fashionable hotels. One young gentleman farmer in our vicinity has gone into the fowl business in good earnest, and reduced it to a perfect system. Eggs are taken in to hatch for so much a head; the name of the owner of the eggs and the date of their being laid, are written upon the outside. Hens are let to those who have eggs of a choice kind, but who have no hens to hatch them. \$3 and even \$4 per dozen is by no means an uncommon price for eggs of a choice kind.—*Boston Traveller.*

Review of the Market.

PRICES CURRENT IN NEW YORK, JUNE 22, 1850.

ASHES, Pot.,.....	100 lbs.	\$5.50	@	\$5.56
Pearl,.....	" do.	5.62	"	5.69
BALE ROPE,.....	" lb.	9	"	11
BARK, Quebracho,.....	" ton.	39.00	"	41.00
BEANS, White,.....	" bushel.	75	"	1.25
BEEFWAX, American, Yellow,	" lb.	20	"	26
BOLT ROPE,.....	" lb.	10	"	11
BONES, Ground,.....	" bushel.	45	"	55
BRISTLES, American,.....	" lb.	25	"	65
BUTTER, Table,.....	" lb.	15	"	25
Shipping,.....	" " "	9	"	13
CANDLES, Mould, Tallow,.....	" " "	25	"	47
Sperm,.....	" " "	25	"	30
Stearine,.....	" " "	5	"	10
CHEESE,.....	2,000 lbs.	5.00	"	6.00
COAL, Anthracite,.....	" lb.	11	"	13
CORDAGE, American,.....	" lb.	10	"	15
COTTON,.....	" lb.	15	"	16
COTTON BAGGING, Am. hemp,	" yard.	30	"	40
FEATHERS,.....	" lb.	8	"	9
FLAX, American,.....	" bbl.	4.37	"	5.75
FLOUR, Ordinary,.....	" "	6.00	"	6.50
Fancy,.....	" "	6.50	"	6.75
Richmond City Mills,.....	" "	2.75	"	3.00
Buckwheat,.....	" bushel.	1.00	"	1.50
GRAIN—Wheat, Western,.....	" "	90	"	1.15
" Red and Mixed,.....	" "	61	"	62
Rye,.....	" "	62	"	65
Corn, Northern,.....	" "	59	"	63
" Southern,.....	" "	60	"	65
Barley,.....	" "	42	"	50
Oats,.....	" "	45.00	"	50.00
GUANO, Peruvian,.....	" do.	34.00	"	35.00
Patagonian,.....	" "	50	"	63
HAY, in Bales,.....	100 lbs.	210.00	"	215.00
HEMP, Russia, Clean,.....	" ton.	160.00	"	200.00
American, Water-rotted,.....	" "	140.00	"	175.00
" Dew-rotted,.....	" "	9	"	10 1/2
HIDES, Southern, Dry,.....	" lb.	6	"	18
HOPS,.....	" 100.	2.00	"	10.00
HORNS,.....	" 100 lbs.	4.50	"	5.00
LEAD, Pig,.....	" lb.	5	"	7
Pipes for Pumps, &c.,.....	" bbl.	2.75	"	3.25
MEAL, Corn,.....	" gallon.	22	"	26
MOLASSES, New-Orleans,.....	" lb.	1.75	"	1.75
MUSTARD, American,.....	" bbl.	1.50	"	1.75
NAVAL STORES—Tar,.....	" Pitch,.....	1.00	"	1.20
Rosin,.....	" "	2.44	"	2.75
Turpentine,.....	" gallon.	30	"	33
Spirits of Turpentine,.....	" "	70	"	75
OIL, Linseed, American,.....	" lb.	1.50	"	1.63
Castor,.....	" "	58	"	65
Lard,.....	" 100 lbs.	1.25	"	1.50
OIL CAKE,.....	" bushel.	75	"	1.25
PEAS, Field,.....	" 2 "	1.75	"	2.00
Black-eyed,.....	" ton.	2.00	"	2.75
PLASTER OF PARIS,.....	" Ground, in Barrels of 300 lbs.	1.12	"	1.35
PROVISIONS—Beef, Mess.,.....	" bbl.	8.50	"	11.00
" Prime,.....	" "	5.25	"	8.00
" Smoked,.....	" lb.	6	"	12
" Rounds, in Pickle,.....	" bbl.	10.00	"	12.00
" Prime,.....	" "	6.50	"	10.00
Lard,.....	" lb.	6	"	7 1/2
Bacon Sides, Smoked,.....	" " "	3	"	4
" in Pickle,.....	" "	5	"	9
Hams, Smoked,.....	" "	4	"	7
" Pickled,.....	" "	4	"	6
Shoulders, Smoked,.....	" "	3	"	5
" Pickled,.....	" "	2.25	"	2.5
RICE,.....	" 100 lbs.	3.75	"	3.75
SALT,.....	" sack.	95	"	2.00
Common,.....	" bushel.	20	"	35
SEEDS—Clover,.....	" bushel.	6	"	9
Timothy,.....	" "	2.00	"	3.50
Flax, Clean,.....	" "	1.60	"	1.65
SODA, Ash, (80 per cent. soda),.....	" lb.	3	"	—
Sulphate Soda, Ground,.....	" "	1	"	—
SUGAR, New-Orleans,.....	" ton.	35.00	"	37.00
SUMACH, American,.....	" lb.	6	"	7
TALLOW,.....	" lb.	3	"	11
TOBACCO,.....	" lb.	15	"	20
Eastern, Seedling,.....	" "	15	"	20
Florida Wrappers,.....	" "	23	"	25
WHISKEY, American,.....	" gallon.	23	"	25
WOOLS, Saxony,.....	" lb.	40	"	60
Merino,.....	" "	35	"	40
Grade Merino,.....	" "	30	"	35
Common,.....	" "	30	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,500 Beeves, (all southern), 150 Cows and Calves, 5,750 Sheep and Lambs.

Beef Cattle.—Quite dull, with sales at a decline from our last figures, \$6 to \$8 having been the range of prices the past week; 40 head were shipped for Bermuda, 120 driven to Boston, and 500 remain unsold.

Cows and Calves.—The market has been steady, without notable change in demand or prices. Our quotations are \$22.50 to \$45; unsold, 10.

Sheep and Lambs.—Sales for the past week have not been so brisk, and prices have not been fully supported. Lambs have brought \$1.75 to \$3.75; sheep, \$2 to \$5; left over, 300. June 24.

REMARKS.—A good business in produce has been done the past month, but with very little variation of price, since our last.

The Weather could not have been better for the growing crops. Corn is now coming on finely, and the prospect north of 41° is fair, and south of 40°, it is very promising. Wheat looks well, generally, and in Michigan and elsewhere, we are informed the prospect is much better than was anticipated last month. The fear, then, in the northwest sections was, that there would not be over one fourth the usual crop. Other grain is coming in well. As for grass, the growth is unusually abundant; and root crops, though late, look strong. Cotton will be a decidedly short crop—all other southern products promise a good average.

TO CORRESPONDENTS.—Communications have been received from E. H. Brown, E. S., A Farmer, R. L. Colt, John Wilson, C., Linus Cone, A Subscriber, T. S. Gold, A Citizen of the United States.

ACKNOWLEDGMENTS.—We have received from Alexandre Vattemare, of Paris, the following interesting works on Agriculture.—Cours d'Agriculture, par Le Cte. de Gasparin. Paris, 1846, 3 vols.; Colonisation et Agriculture de l'Algérie, par M. L. Moll. Paris, 1845, 2 vols.; Agriculture française, par MM. Les Inspecteurs de l'Agriculture, publié d'après les ordres de M. le Ministre d'Agriculture et du Commerce. Paris, 1845, 7 vols.; Maison Rustique du XIXe. Siècle, par MM. Ysabeau et Bixio. Paris, 1849, 5 vols.; De La Fabrication du Fromage gras dit Stracchino de Gorgonzola, Mémoire traduit de l'Ouvrage italien de Louis Cattaneo. Paris, 1 vol.; Traité complet de l'élevage du Cheval en Bretagne, Statistique Hippique de la France, par le Dépôt d'Etalons de Langonnet, par Ephrem Houll. Paris, 1842, 1 vol.; Traité Élémentaire de l'Agriculture du Département de la Seine, par Edouard Lecouteux. Paris, 1840, 1 vol.; Premiers Éléments d'Agriculture, par L. Beniz. Paris, 1845, 1 vol.; Manuel Élémentaire du Cultivateur alsacien, par J. L. Stoltz. Strasbourg, 1842, 1 vol., in French and German; Préservatif d'Agromanie Emprunte ou Lettres Agricoles, par M. Le Mis, de Travant, Première Partie. Paris, 1845, 1 vol.; Notes Economiques sur L'Administration des Richesses et la Statistique Agricole de la France, par C. E. Royer. Paris, 1843, 1 vol.; Manuel d'Agriculture à l'usage des Cultivateurs et des Ecoles primaires du Nord de la France, par V. Rendu. Paris, 1838, 1 vol.; L'Agriculture Raisonnée ou Manuel Complet et Spécial du Cultivateur, par l'Abbé Picard. Niort, 1844, 1 vol.; Manuel d'Agriculture, ou Traité Élémentaire de l'Art du Cultivateur, par L. Moll. Nancy, 1841, 1 vol.; Ampélographie ou Traité des Cépages les plus estimés dans tous les Vignobles de quelque renom, par Le Comte Odart. Paris, 1845, 1 vol.; Agriculture de Partie du Pottou, par M. Souzeau (Alex.). Niort, 1844, 1 vol.; Des Irrigations suivant la Loi du 16 Sept. 1807, par Alphonse de P. * * * Paris, 1844, 1 vol. Received, also, from other sources, Annual Report of the Central Board of Agriculture, at Halifax, Nova Scotia, for the year 1849; Address, Delivered Before the Greensboro', Alabama, Agricultural Society, in May last, by Isaac Croan, Esq.

PATENT WIRE RAILING, of every variety of Style and Design, from 1/4 in. to 1 1/2 in. diameter, for Enclosures Farms, Public Grounds, Cemeteries, Cottages, and Gardens, Window Shutters, and Grounds for Private Dwellings, Lunatic Asylums, Prisons, Summer Houses, Arbors, Arches, and Verandahs, Gratings for Sky Lights, Guards for Steamboats, &c. Manufactured by T. Lyman & Co., 4 Albany Block, Boston, and G. W. Phipps & Co., Grove Street, New Haven, Ct., sole patentees for the New-England States. For further particulars, address, post paid, A. B. ALLEN & Co., 189 and 191 Water st. N. Y.

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One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Konkoma Pond, or Lake, one of the most beautiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

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ANALYSIS OF SOILS.—Dr. Antisell has removed his laboratory to 35 City-Hall Place, where he continues to carry on analyses of Soils, Manures, and other Agricultural Substances, and to give opinions on same. Fee for analysis of soils, \$5. A class is formed for instruction in chemistry, and mode of conducting analyses. There is a vacancy for a few pupils. Terms \$15 for three months.

NEW-YORK

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The *Overshot Threshers* consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c. drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a separator high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

Price of single Power,	\$80
“ Thresher,	\$28
“ Separator and fixtures,	\$7
“ Bands for driving, etc.,	\$5
“ Wood-sawing machine, complete, and in running order,	\$35

Price of Double Power,	\$100
“ with Thresher, Separator, &c.,	\$145 to \$150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

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GREAT SALE OF SHORTHORN CATTLE.—The subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Dutchess Co., New York, about 35 head of Shorthorn cattle, including cows, heifers, and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day and made 15 lbs. 3 oz. of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red and white, and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, which will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Shorthorns—was calved in June 1848, and bred by Mr. John Stephenson, of Wolveston, Durham, England. He was got by Napier, (6,338),—out of Jessamine, by Commodore (3,452)—Flora, by Belvedere, (1,706)—Jessey, by Belvedere, (1,706)—Cherry by Waterloo, (2,316), &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first-rate judge of shorthorn stock, and was considered one of the *very best* bulls in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow-red, which is a bright-red with a fine golden or saffron underling, arising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees without any alloy or Galloway blood, back to pure shorthorns, for upwards of two hundred years; a matter of no small consideration to those who wish a superior fresh cross.

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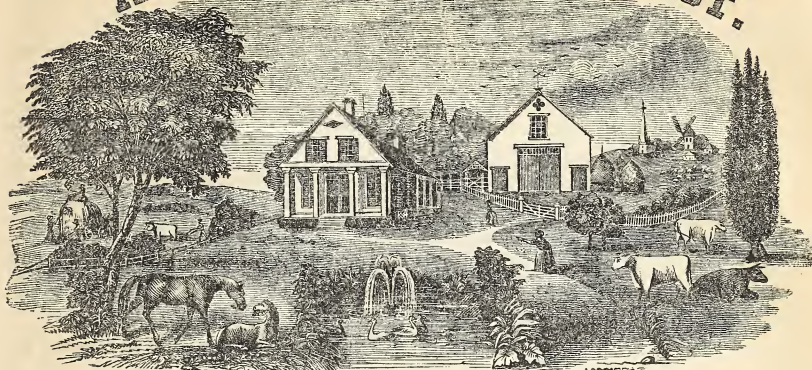
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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CAPACITY OF SOILS FOR ABSORBING FERTILISING MATTER.

THE property of earths for absorbing the pungent gases and offensive matter in fetid water, shows most conclusively their capacity for absorbing and retaining the fertilising ingredients mixed with them. Anything which is undergoing decomposition, or giving off putrid odors, is immediately rendered innocuous by placing a thick covering of earth over it. The stench from a polecat, the smoke of brimstone, or a decaying carcass, is immediately absorbed and rendered imperceptible, when brought into close contact with the earth. It is in fact, the grand deodoriser of nature; and in this capacity, it is doubly beneficial to the human race, and to the herds and flocks subsisting upon its surface; first, by absorbing all these pestilential effluvia; and second, by turning them to the best account in her laboratory. In consequence of the addition of these, she gives increased luxuriance to vegetable, and fuller development and maturity to the seeds and crops that contribute to the support of innumerable races of animated creation. By the aid of these, she is enabled to lend a more unsullied white to the lily, and to add a deeper blush to the rose; and from them, too, she stores within the petals and calyx of every flower, the nectar that feeds the bee, the humming bird, and a countless throng besides. When, therefore, Abraham said to the sons of Heth, "give me a possession of a burying place, that I may bury my dead out of my sight;" and again, when the Israelites were required to carry a paddle when going without the camp, they acted only in accordance with the very best practices of modern agriculture.

But the earths possess this property in very different degrees. Silicious sands and gravels, have only the slightest hold upon foreign matter; while clays, and clayey loams seize upon them, almost with the avidity of charcoal, or animal black, and retain them with a still firmer hold, when they have once entered into a chemical union. If, however, alkaline substances, as lime, magnesia, soda, or ashes be added to the silicious earths, or if they become enriched by the addition of vegetable manures, their absorbing capacity is immediately and largely augmented. This is one of those beneficial results, always necessarily attached to good husbandry, which is fully exemplified, in the vantage ground, voluntarily conceded by his lord, in the gift of an additional pound, to the thrifty servant, whose "one pound has gained ten pounds." The soil that is in the best condition as to fertility and tilth, is in the very best possible state, also, to draw in and retain the floating elements of fertility, existing in the atmosphere.

To show some of the striking effects of the properties in soils, above alluded to, we subjoin some of the experiments and remarks of Professor Way on this subject. He passed through a filtering jar containing more than 9 inches depth of fine white sand, a quantity of cow's urine taken from a tank in the country. The liquid was so far altered by the filtration

that the turbidity was removed, as it would be by filtration through paper, but the color and disgusting smell remained in all its intensity. Sand, therefore, obviously was not the active ingredient in soils in respect to the power under discussion. The same must be said of the different forms of gravel, which were only coarse sand. The other great ingredient of soils was clay, and to this Mr. Way attributed the power in question. As an experiment, comparative with the last, he would pass the same tank water through sand, mixed with one fourth of its weight of white clay, in powder, and they would observe the result was very striking. The liquid coming through was clear and free from smell; indeed, it was hardly to be distinguished by its external characteristics from ordinary water. There could be no doubt, then, that the property of soils to remove coloring matter, and organic matter yielding smell from solution, was due to the clay contained in them. Filtration was only a method of exposing the liquid in the most perfect form to the action of the clay, but it was not necessary to the success of the process. In proof of this, Mr. Way stirred up a quantity of soil with putrid human urine, the smell of which was entirely destroyed by the admixture, and upon the subsidence of the earth the liquid was left clear and colorless. It appeared, therefore, that the clay of soils had the property of separating certain animal and vegetable ingredients from solution, but was this property the only one exhibited? Mr. Way had found that soils had the power of stopping, also, the alkalies, ammonia, potash, soda, magnesia, &c. If a quantity of ammonia, highly pungent to the smell, was thrown upon a filter of soil, or clay made permeable by sand, the water first coming away was absolutely free from ammonia. Such was the case also with the caustic or carbonated alkalies, potash, or soda. A power, he remarked, is here found to reside in soils, by virtue of which not only is rain unable to wash out of them those soluble ingredients forming a necessary condition of vegetation, but even those compounds, when introduced artificially by manure, are laid hold of and fixed in the soil, to the absolute preclusion of any loss either by rain or evaporation.

But he had found that this property of clay did not apply only to the alkalies and their carbonates, but to all the salts of these bases with whatever acid they were combined. Here again was a beautiful provision; sulphate of ammonia, when filtered through a soil, left its ammonia behind, but the sulphuric acid was found in the filtered liquid—not, however, in the free state, but combined with lime, thus sulphate of lime was produced, and brought away in the water. In the same way muriate of ammonia left its ammonia with the soil, its acid coming through in combination with lime, as muriate of that base. The same was true of all the salts of the different alkalies, so far as he had yet tried them. Thus lime, in the economy of nature, was destined to one other great office besides those which had already been found for

it—it was the means by which the salts ministering to vegetation became localised and distributed through the soil, and retained there until they are required for vegetation. It was necessary that when the alkali of a salt is laid hold of by a soil, some provision should exist for the neutralisation of the acid with which it was combined; for all other sorts, lime performed this usual office, but it had nothing to fall back upon for its own salts. Sulphate, muriate, or nitrate of lime, when passed through a soil, would come through unchanged. This, however, did not extend to lime, itself, nor to its carbonate, when dissolved in carbonic acid, as it is found in most waters. Quicklime, when dissolved in water, is removed by passing the water through most soils containing clay; and carbonate of lime, in solution, is so effectually removed that hard water may be softened by the same process.

It was not to be supposed that we could go on filtering indefinitely with the separation of the salts contained in the liquid. On the contrary, the limit was soon reached; but although small in per-centage quantity, the power was in reference to the soil enormously great. He had found that a pure clay would absorb, perhaps, two tenths per cent. of its weight of ammonia—that is to say, 1,000 grams would separate 2 grains of ammonia; and from reasons which need not then be noticed, a loam, or a well-cultivated clay soil would absorb nearly twice as much. Now every inch in depth of soil over an acre of ground weighed about 100 tons. Consequently 10 inches of depth of such soil would weigh 1,000 tons, and would be adequate to combine with and retain 2 tons of ammonia, a quantity which would be furnished by about 12 tons of guano. Now one sixtieth of this power would suffice for the preservation of the ammonia of an outside dose of guano, consequently he was justified in saying that the property was practically of immense activity.

Obviously, if there was a provision in the soil for the retention of the salts of manure, and for the ammonia and other products of the decomposition of animal and vegetable matter, the soil was the proper place for those decompositions to go on, and no matter how remote the period when the crop would be taken, it would be perfectly safe to get the manure into the land as soon as practicable after its production. Again, the equable distribution was a point, also, which seemed of considerable importance; for, if it was an absolute necessity that a new class of compounds was found in the soil as soon as the manure reached it, it seemed to follow that those compounds furnished the elements of nutrition to plants; consequently we should seek to produce them by every means in our power. Liquid manuring, wherever practicable, was an effectual way of securing this distribution. In the case of artificial manures, that is to say, manures composed of chemical salts, much simplicity was introduced by the new discovery. Henceforth we must regard the different salts, (those of ammonia, for instance,) as of value in relation to the price of ammonia, or other bases

contained in them, since they are all alike when incorporated with the soil.

In liquid manuring it had been usual to think that the application must be made to grass, or to land bearing some crop; but now that it was known that the land, not the plant, retains the manure, no theoretical difficulty could arise in the use of liquid manure for arable land.

FOOD OF CALVES.

Food of an inferior quality, or a limited supply of the better kinds, will not rear and fatten animals in number, nor of an improved organisation—the growth is stunted, the maturity is deferred, and the carcass is faulty in every respect of quantity and quality. The very first existence of the animal is rendered nugatory by the feeding of the calf from the pail, with the milk, instead of suckling, and by the substitution of broths and juicy preparations for the nutriment of the dam [?]. These insufficient materials spoil the animals at the very first outset—the intestinal offals are enlarged, the growth is stopped, and also the acquisition of the stamina of organic vigor, which forms the very first property in the value of animal life. Without constitutional vigor, the organic functions are unable to perform their offices, and the food of the very best quality is not properly decomposed and assimilated.

Every experience shows that no substances yet known will nurse a young calf so well as the mother's milk; and the quantity of saliva is wanting which is engendered by the mouth sucking the teat, and which is so very useful in promoting the action of the stomach. The suckling of the calf forms the foundation of the future animal. For the purpose of making butter and cheese it only remains to allot a portion of the cows for that purpose, and the others for suckling, each purpose being kept separate and distinct, without the hurtful intermixture of starving the animal to procure the other products of milk. Each purpose must be free of the other.—*Agricultural Gazette.*

EVERYTHING SHOULD BE DONE SYSTEMATICALLY.

—It is astonishing how much time and labor are thrown away by some farmers solely for want of a system. They go to work just as it happens, in a wrong time, perhaps, and in great haste, half do the work, or leave it unfinished, and then suffer the consequences. There is another thing very reprehensible; and that is, leaving everything where it was last used, and when it is wanted for use again, some time must be spent in finding it, to say nothing of the injury done to the implements by leaving them all the time exposed to the weather. "A place for everything and everything in its place," is the true doctrine for farmers.

A DISINFECTING AGENT.—Mix four parts of dry, ground plaster of Paris with one part of fine charcoal, by weight, and sow them around the premises affected with any unpleasant odor, arising from decayed animal matter, and the gases producing the odor will directly be absorbed.

INSECTS USEFUL TO AGRICULTURE.

WE condense, principally from a recent work of J. H. Fennell, some interesting facts relating to this much-neglected class of animated nature. Were the habits, economy, and capabilities of this large, but unpretending family, fully known, mankind would be able, annually, to add millions to their products, or save hundreds of millions from their ravages; and we can offer no better suggestion to some young students of nature, some modern Linnæus, than a thorough explanation of the insect history of this broad American continent, hitherto almost wholly unknown.

Some of the Chinese silkworms spin white silk, but some regard them as only a variety of the common species, and not as a distinct one. They slightly differ from the common silkworm by a blackish spot on each side of the head; and the moths, which began to appear at the close of August, were perhaps rather larger, and the dark lines on the wings were of a little deeper color. From the hatching of the egg to the death of the moth, this variety's existence averaged 100 days. The silk was not so abundant as on the cocoon of the common sort; of not quite so strong a texture; less easily wound off; but as the silk is beautifully soft and perfectly white, further careful observation may show that it is better adapted to some purposes in manufacture than the pale-yellow and orange sorts of silk*.

The caterpillars of the Atlas moth, (*Attacus atlas*, Germar), a native of Surinam and other parts of America, and also of China and other parts of Asia, feed on the leaves of the *citrus*, and spin silken cocoons of great size, which sometimes unwind in threads of many ells in length, more firm and tenacious than common silk, but the cases are very difficult to unravel, and are commonly carded. In the East Indies, silk is obtained, also, from the cocoons of two other species, namely, *Attacus mylitta* and *A. cynthia*.† In India, three other native species are also used; for instance, the Tusseh silkworm, which feeds in the jungle on the jujube tree; the Arrindy, which feeds on the *Palma Christi*; and the Moongha, whose produce is used there to an extent of which we have but little idea.

In South America, there are several caterpillars, besides those of the common silk moth and Atlas moth, which yield excellent silk. Spix says that, in Brazil, a species of silkworm is abundant on a laurel-like shrub, particularly in Maranhão and Para. He says, that although its thread promises a much more brilliant silk than that of Europe, it has never been employed, although it might be with very great facility.‡ At Maranhão and Rio Janeiro, the caterpillars of several species of *bombyx* spin their cocoons of a thicker and stronger silk than that of the common silkworm; and Padre Mestre, who gave the former a trial, found that it forms

a very solid material. It has been proposed to cultivate for the feeding of them a species of mulberry with small inedible fruit, growing near Rio Janeiro.

A caterpillar, which the Indians call sustillo, of the tribe and size of the silkworm, feeds on the leaves of the pacal, a common tree in Peru, and fabricates a kind of silk paper very similar to that made in China. When the caterpillars are about to transform, they assemble at the body of the tree, and co-operate in forming, with the greatest symmetry and regularity, a web of admirable texture, consistency, and lustre, and which is larger or smaller according to their numbers. Beneath this web, they all unite; and, disposing themselves in vertical and even files, form in the centre a perfect square. This done, each of them spins its cocoon of a coarse and short silk, in which it changes to a chrysalis. By-and-by the chrysalis becomes a moth, which, impatient of further confinement, and anxious to take wing, breaks its way through the general web, the fragments of which consequently remain suspended to the trunk of a tree, waving to and fro like streamers, and become more or less white, according to the situation and atmosphere. This natural silk paper has been gathered measuring a yard and a half, of an elliptical shape, which is peculiar to all of it.

The caterpillars of the common ermine moth, (*Yponomeuta padella*), are gregarious, and naturally construct a very fine close web, impenetrable by air, but easily detached from the trees. M. Habenstreet, of Munich, induced them to spin it on a suspended paper model, to which he gave the form and size he required; and he thus obtained square shawls of an ell width, others two ells long and one wide, a balloon four feet in height and two in horizontal diameter, and all of a much lighter fabric than the finest cambric; the balloon weighed less than five grains, and the flame of a single match held under it for a few seconds would raise it to a good height, whence it would not descend for half an hour; a shawl of the size of a square ell, when stretched and blown into the air, resembled a very light smoke passing over; a whole lady's dress, with sleeves, but without a seam, he presented to the queen of Bavaria, who mounted this fairy-like attire on another dress, and so wore it on many great occasions; a shawl of a square ell in size cost only eight francs. The caterpillars, two of which are able to produce a square inch of this delicate fabric, glue their threads closely together while spinning, and to increase the thickness of the layer, if necessary, they were made to pass repeatedly over it; many were of course employed, and those parts of the model and patterns not to be covered were rubbed with spirits of wine, which prevented the caterpillars from working over them. A web seven feet square, perfectly pure, and as brilliant as taffety, was the result of three weeks' labor of about 500 caterpillars.*

Latreille and other naturalists have recommended a trial of manufacturing articles from the silk of the caterpillar of the crimson under-

* Entomological Society's Transactions, 1837, vol. ii. p. 40.

† See Linnæan Transactions, vol. vii., and Colonel Sykes's account of the Kollura Silkworm of the Deccan, in the Asiatic Society's Transactions, 1834, vol. iii.

‡ Spix's Brazil (1823—31).

* Le Journal de la Société d'Emulation, &c.

wing-moth (*Catocala sponsa*); and Wilhelm says that the experiment has been successfully tried in Germany with the silk of the emperor moth (*Saturnia pavonia minor*). Both these species may be found in England; the former in Kent, Surrey, Berkshire, and Hampshire, feeding on the oak; the latter in Kent, Surrey, Yorkshire, Lincolnshire, Norfolk, and Shropshire, feeding on blackthorn, alder, oak, bramble, rose, elder, &c. Britain produces more than two thousand species of moths and butterflies; yet none of their caterpillars do we turn to any useful account. This is only one instance, out of many that might be mentioned, of our slowness, prejudice, or indifference about availing ourselves of the benefits we might derive from many of our natural productions at present neglected.

Over the surface of the large heaps of maize which are laid up in store in Mexico, the caterpillars of a small moth spin a large delicate silken web, four or five yards long, known there by the name of the Tela de Maiz, or maize cloth. The inhabitants use it as a styptic, or dressing for recent wounds, as the spider's web is used in many parts of Europe.

In some places, lantern flies are used instead of candles. Madame Merian relates the fright she experienced when she opened a box containing some lantern flies, and beheld it full on fire. [We have kept for a long period, by feeding with the moistened sugar cane, its natural aliment, a species of large beetle, found in Cuba and elsewhere, called cucullio, having two luminous spots on its head, which are always visible in the dark. A slight excitement or agitation will induce them to throw out sufficient light to read by. They can, besides, open the outer covering on their breast, and display a diamond-shaped light, more than five eighths of an inch in length, and of great lustre. When flitting about their native fields, at night, they exhibit a wonderful brilliancy. Numbers of them are frequently caught by the planters, and thrown into glass parlor lanterns, tastefully constructed for this purpose, where they afford an agreeable light for the evening, without the unpleasant accompaniments of heat or smoke. The Cuban belles, also, contrive to fasten them in their hair, and various parts of their transparent evening dresses, and thus present a brilliancy, which no jewels, not even that of the great mogul, can match.—Eds.]

The larvae of *Cicada limbata*, found in various parts of the Chinese empire, produces a kind of white wax. They inhabit most of the southeast provinces of China as well as of Cochin-China, but the best exist in the provinces of Setchuen and Yuman, and from the territories of Hentcheou and Yung-tcheou. The wax insect does not much exceed in size, of the common fly; every part of it appears to be perfectly white, or at least, to be completely covered with a white powder; and the head is furnished with pectinated antennæ arched forwards. In its mature state, the wax insect is furnished with wings. The stems of the privet-like shrub on which these insects swarm, appear entirely whitened by a substance or powder strewed upon them;

the same in nature, apparently, as that with which the body of the insect is covered. At a later period of their larva state, the insects attain a blackish chestnut color, and form on the tree, little pelotons, each about the size of a grain of millet. These are attached to the branches, somewhat in the manner of bunches of grapes, the tree appearing, at first sight, as though bearing fruit. The natives gather these pelotons about the month of April or May, and, having wrapped them up in the broad leaves of Yo, (a kind of grass,) suspend them from the trees. Towards the beginning of the spring, they increase in size; and on the coming of the warm, midsummer weather, they open, the insects emerge from them, crawl about on the leaves and stalks, and deposit their valuable wax, called by the Chinese *Tchang-pe-la*. It is at first somewhat similar to a white grease; but it speedily hardens, and then assumes more the character of wax. When in a fit state, it is scraped from the branches, generally in the autumnal months, and collected in a vessel. By pouring the melted wax into cold water, it coagulates into a paste, which is easily formed into cakes. Sir G. Staunton says it will also coagulate when mixed with oil and other oleaginous substances, so as to be fit for making candles. When composed of one part wax, dissolved in three parts of olive oil, it is nearly as firm as bees' wax, and is much superior to it. The candles made of this wax, yield a clear light without smoke; but owing to their being rather costly, they are used chiefly by the highest classes in China.

The medicinal virtues of the wax are highly commended by Tchi-hen and other Chinese physicians; but their enumeration of its curative properties too much resemble the style of Culpeper and old Gerard, to seem worthy of implicit belief. It is thought to have a wonderful tendency to assist the replacement of dislocated bones, to unite dis severed nerves, to heal wounds, to stop bleeding, and appease pain.

HORSE BREEDING IN RUSSIA.

WITH respect to the establishments destined for the breed of horses, there are seven crown studs; two in the Voronega government, (Khrenoff and Tchesme,) four in the government of Kharkoff, (Belovod,) and one in that of Nizni-Novgorod (Potchinki). The first two are for the breed of horses of superior blood, so that the stud of Tchesme, contains race horses exclusively—that of Khrenoff saddle horses and roadsters (trotteurs). The other establishments produce ordinary horses only, whether for riding or draught.

On the 1st of January, 1848, there were 4,767 horses in these crown studs. On the same day last year, 4,837; making an increase of 70 in the twelvemonth. During the year in question, the horses sold amounted in number, to 684, of which 595 were the offspring of these studs, and 89 reconditioned from the country stables. The proceeds of the sale were 82,625 silver roubles and 88½ kopeks.

The object proposed in the sale was twofold—

to supply, no doubt, a productive quality of horses to the labors of the country; but principally to procure funds towards the extinction of a debt contracted in acquiring the grounds of Khrenoff.

The stud grooms and officials, who are furnished with their recruits from among the sons of the subordinate dependents of the establishments and the peasants belonging to them, were, on the 1st of January, 1849, (old style,) 3,298 in number, including 1,310 boys.

With the view of affording an education to the children of these functionaries, the government has established schools for them, and to these schools the miscellaneous public are also admitted as pensioners. The schools furnish two courses—one elementary, and intended to form the pupils for the more subordinate duties; the other serving as a preparation for the veterinary calling. In 1849, the students amounted to 646 in number, of whom 611 were state bursars and 35 private pensioners. In addition to these institutions, there is a technical school at the Khrenoff stud, where the pupils are farmed for training grooms and jockeys; and a special stable for racers has been annexed to the establishment.

The capital possessed by this department consisted, at the beginning of 1848, of 108,297 silver roubles, 23 kopeks. The year's income was 402,173 silver roubles, 94½ kopeks; the expenses in the same period were 432,984 silver roubles, 94½ kopeks the balance, therefore, was 77,486 silver roubles, 23 kopeks in hand on the 12th of January, last year.

Besides these more formal institutions, there are twenty-three *country establishments*, destined to the improvement of the rural breed of horses. These twenty-three are scattered through twenty-eight governments. So far back, even as 1848, their stables numbered no less than 1,337 stallions.

In the government of Yaroslaff, Riazan, Toula, Timbiask, Khankoff, Poltava, and some others, these stables contain some thorough-bred stallions for the improvement of cavalry horses, and the annual proceeds are carried to the general fund.

At Moscow, moreover, and in the stud of Khrenoff, there are stables established exclusively for the production of a purer breed; and in the twelve months, 40,673 mares have been offered at these *country stables*, and 25,397 taken. Indeed, 91,000 have been covered since the recent date of the foundation of these establishments, and, at the least, sixty-seven per cent. have foaled. The cavalry horses are already bettered in consequence.

For the maintainance of these stables, a sum is assessed upon the taxable matter of 28 governments. In 1848, the cost amounted to 237,028 roubles and 92½ kopeks; and the tax payers felt the burden to the amount of only one kopek and a seventh a head. The kopek is the hundredth part of a rouble. [The rouble is a money of account in Russia. That coined since 1762, is worth about 75 cents of our money.—Eds.]—*London Morning Post*.

THE USE OF CHLOROFORM DURING CASTRATION OF HORSES.

The first subject was a yearling colt for castration.

Having adjusted my hobbles, I applied the bladder, containing about one ounce of the chloroform, to the off nostril, my assistant closing the other with his hand; when, in less than one minute, the animal staggered, and I believe would have fallen from the effect of it, but we drew the hobbles together, and secured his legs. I then commenced the operation, (you are aware it is not a very long one,) which lasted about three minutes, during which time there was not a struggle, and having finished, we unfastened the ropes, the animal lay for about a minute, and then jumped up all right.

The next was a two-year-old half-bred colt, for the same operation.

Two ounces of the chloroform were put in the bladder, and on its being applied, as in the former case, the animal shook his head, bounded forward, nearly knocking us down, struck out with his fore legs, and appeared almost like a mad horse for some time, (say four or five minutes,) but shortly afterwards he stood more quietly, and the effect of the agent became very visible, by his reeling about.

After having cut through the scrotum, and divided the cremaster muscle of the lower testicle, which I did with perfect ease, and without any notice having been taken of it by the patient, I proceeded to take hold of the other, for the purpose of removing it, when I found it so withdrawn from my reach, that I was compelled to wait about a minute and a half for its re-appearance. Having then secured it as before, and cut into the scrotum, before I could divide the cremaster, he gave a struggle, and continued to do so for some little time, and, in fact until I finished the operation. I am of opinion the struggles were more violent than if the chloroform had not been used. I, therefore, am of opinion that there is no certainty in its action, and scarcely any advantage, on the score of humanity, to the patient, especially during the operation of castration; but I will give it another trial upon some animal about to be fired. Should you see anything in my description of the use of the agent that requires alteration, I should feel obliged by your making me acquainted with it, so that I may adopt it in my next case. Do you not think that the sensation which causes the appearance of madness, must be more painful than even the operation itself?

The administration of chloroform seems to have been attended by different results in the two cases above described. In the case first operated on, the agent had a speedy, and, so far as ensuring quietness and insensibility to pain are concerned, a beneficial action. In the second instance, an increase of excitability in the nervous system preceded the full anæsthetic action of the chloroform. From what we have seen of the employment of this agent, we may remark that our experience corroborates the accounts before given as to the uncertainty or irregularity of its operation. Even provided

that its mode of being administered is always the same, there is a great difference in the manner and time of various horses becoming affected with it, and we cannot beforehand tell upon which animals it will produce a favorable or unfavorable influence. And, again, in some cases, it will operate so fully and efficaciously as an anæsthetic, that a horse under its action, though subjected to painful operations, may not for a while need the usual securing by ropes and hobbles in order to restrain his struggles; yet, almost as in a moment, and without warning, the animal will sometimes begin to writhe and dash about with the greatest violence. If chloroform uniformly produced complete stillness and insensibility, and if it acted with a like certainty in every case, when given to the horse, it would be an agent worthy of every dependence; but so long as it remains unequal in its operations, we cannot rely upon it as calculated to supplant the hobbles and ropes usually employed during the performance of operations to ensure safety to the horse, operator, and attendants.—*Veterinary Record.*

PROPOSED REMEDY FOR STEALING FRUIT

MANY farmers in this vicinity are deterred from cultivating fruits, from the fact of its liability to be stolen by unruly boys, not to say men, or animals in the shape of men. Now, if we lived among Arabs, we should probably expect this; but in a civilized community, governed, as we claim to be, by laws, and where a very large proportion of the inhabitants are themselves cultivators of the soil, this state of things is really too bad. Having seen various remedies suggested, such as bull dogs, tartar emetic, hedge fences, &c., I have thought of proposing a plan, which, if thoroughly carried out, I have no doubt would be more effectual than all others combined. Let every person who occupies a single rod of ground, plant a grapevine, a peach tree, a pear tree, an apple tree, and if natural fruit, graft or bud them with some of the best varieties in the neighborhood. Plant, also, a few cherry stones, if you can find no tree that you are able to buy; set out a currant bush, or raspberry plant by the side of the fence, and almost any person can have these given him if he will only take the trouble to set them in the ground; or, if not given him, the expense is a mere trifle, a few shillings at most, and my word for it, no man, who knows the pleasure, yes, the *pleasure* of cultivating, and the vexation of having them stolen, will ever be guilty, nor suffer his children to be guilty of such meanness afterwards.

But it may be said, "I have no land to spare for such things as these, I must raise what will turn to the most profit." Now I ask, what will pay better than fruit of almost every kind, at the present day? Besides, would you not prefer being at a little trouble, or even a trifling expense, to raise these things, rather than have your children pilfer, or even beg them of your neighbors? But it will be said, I shall not live long enough to enjoy them, if I do take all this trouble. Are you sure of that? You can prob-

ably get a fair crop of grapes in two to three years, if you will simply train a vine to your house, or plant it in your garden or yard, and set a pole by the side of it, to run upon; and so with almost every kind of fruit tree. They will bear in much less time than is generally supposed, if they are only taken care of. But supposing you do not live to enjoy it yourself, do you wish to do nothing for your children? or do you wish the world to be no better for your having lived therein? If so, go on in the "even tenor of your ways," and encourage your children to "follow in your footsteps," and your wish will probably be gratified.

S. E.

THE ROLLING STONE GATHERS NO MOSS.

NEITHER does the uneasy farmer who is constantly moving or talking about moving *somewhere* to find rich land. Generally speaking, the migrating man belongs to that class who are careless of the soil, exhaust it for present crops, without an eye to the future. His lands are heavily taxed by injudicious management, and before he has secured the value of the labor bestowed in clearing them, he is left with a crippled plantation, yielding but a poor crop. To move in quest of the virgin soil again, is but incurring heavy expenses, hard labor, loss of time, deprivations innumerable, besides parting with the old homestead for a mere trifle, when he could soon make it rich and productive, if he would but feed it with half the care that he feeds his own imagination upon some visionary scheme of growing rich in "El Dorado," to which he is about to emigrate.

It will not do to hoe a great field for little crops, nor to mow twenty acres for five loads of hay. Enrich the land, and it will pay you for it. Better farm fifty acres well, than fifty by halves, and it is much better to improve the old farm, than to go off upon some Utopian expedition after a new one.

VALUE OF AN ORCHARD.—Every farmer or mechanic who owns an acre of land should supply it with fruit trees. The fruit would be worth more than any other product that he would obtain from it, besides the advantage of comfort and health to the family. One individual of our acquaintance cleared off the rocks and bushes from an acre of worthless land, and set out 36 apple trees. The fruit has paid for all the labor, the land and the trees being now worth \$200.

THE HOME OF TASTE.—The home that all admire is not made by the upholster or cabinet maker—by rich carpets, rosewood, mahogany, and gilding. It must have the blandishments of true politeness and kindly dispositions, that always create beauty, taste, contentment, and love of home, whether in palace, cottage, or cabin. The home of taste is always more ornamented by the architect of nature, than by the artificer. Shrubs, fruit trees, flowers, and green grass, in their season, all lend their charms and help make up the *tout ensemble* of the home of taste.

TO MEASURE THE HEIGHT OF STANDING TREES.

A CORRESPONDENT of yours, at Fond du Lac, in the current volume of the *Agriculturist*; inquires whether "you or any of your readers can give a description of an instrument for taking the height of trees while standing."

There are two simple methods which I have seen practised in France, and which, though they may be well known and familiar to many, I have never seen described, nor used in this country. One is, when a tree is isolated, or with a space around it sufficient to see its top without interruption, the height is taken by measuring it by an angle of 45 degrees from the eye, or in other terms, by making the tree one of the sides of an imaginary right-angled triangle. To do this, take a thin piece of board, say 4 feet long by 6 inches in width, jointed perfectly straight on one of its edges. At one extremity of this board, an exact square of 6 inches is traced by black or white lines, to the upper angle *o* which a small plumb is suspended by a line of a foot in length. The operator then puts the straight line of the board to his eye, walks backward from the tree to the point of distance, when the eye, running along the line of the board, strikes exactly the extremity of the top, at the same time that the line of the plumb passes exactly through the upper and lower points of the square traced on the lower end of the board and from the point where he then stands, the distance to the foot of the tree adding thereto the height of the operator from his feet to his eyes and one half the diameter of the tree, is its true height.

Another method still more expeditious and simple is used by measuring the shadow of the tree when the sky is perfectly clear and there is no interruption to its shade. Take a rod or stick of 6, 8, or 10 feet in length; place it perpendicularly on the earth by a plumb line; and make an exact measurement of the shade it casts upon the ground; then measure the length of the shadow of the tree with equal exactness, and as the length of the shade of your rod is to its length or height, so is the length of the shadow of the tree to its height.

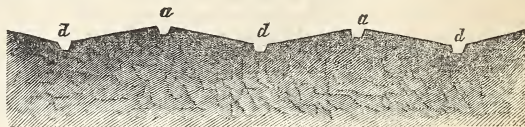
A TRAVELLER.

GUNPOWDER FOR CHOKED CATTLE.—Make a cartridge large enough for a musket and thrust it down the throat; if that does not produce relief, repeat the charge; or, if the choking is so bad that this will not relieve it, you may use fire with the powder with the next charge.

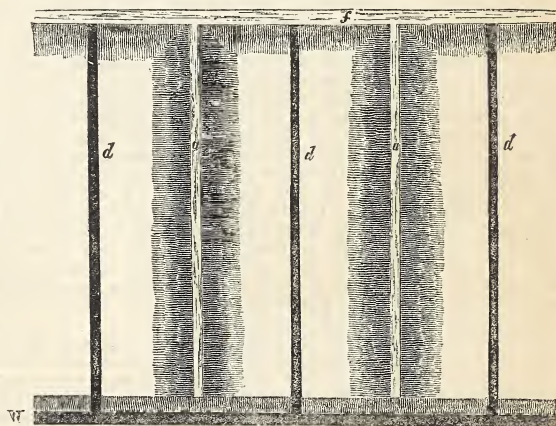
IRRIGATION.—No. 2.

SOMETIMES situations occur at the foot of hills, or along the borders of streams, where the land is flat, or nearly level, and the modes described at pp. 216, 218, of the current volume, for distributing the water, cannot be applied, for the want of a sufficient declivity to allow the water to pass rapidly over the surface. In such cases, the whole field should be laid out into broad beds, 60 or 80 feet wide, undulating, as it were, like the waves of the sea. The central or upper part of these beds, or panes, should be made quite level from end to end, through each of which a channel, or "float," *a, a*, should be cut for conducting the water from the feeder, *f*, at the higher side of the meadow, as indicated by Fig. 67 in the diagram below.

From the edge of these channels, the surface



IRRIGATION—VERTICAL SECTION.—FIG. 66.

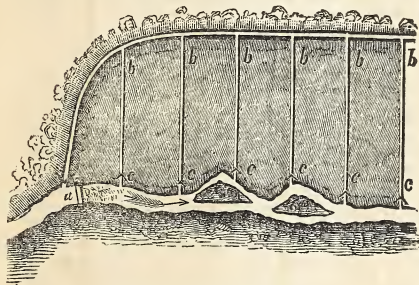


IRRIGATION—GROUND PLAN.—FIG. 67.

of the ground should be made to slope, from one to two feet, both ways from the centre, and ditches, or drains, *d, d, d*, cut at the bottom, between the beds, parallel with the "floats." These beds should not be curved like the ridges of a plowed field, but form inclined planes from the centre to each side. The floats are supplied by a main channel, or feeder, *f*, at right angles to the beds, elevated somewhat above them, and all the ditches or drains, *d, d, d*, should be made to run into another main ditch, or waste drain, *w*, at the lower side of the field, parallel to the feeder *f*. By this arrangement, the course of the water will be very regular. As soon as the "stops," or flood gates are opened, it flows into the floats, or upper channels, until they are full to the brim, when they will overflow the

whole of their length, and the sloping sides of the beds covered with a thin sheet of running water, which the lower drains will collect, and carry off in the waste drain, *w*.

There are other cases, also, which occur along the borders of streams, where the land is level, and too low to be irrigated by any means, except by inundation. As a familiar instance of this, let *a*, Fig. 68, denote a dam thrown across a river or brook, where there is a fall of four or more feet; *b*, *b*, &c., a ditch running along the base of a hill, or the upland, adjoining a level, swampy piece of ground, kept constantly wet by a number of springs, which this ditch will cut off, and give the low, boggy ground a chance to dry; *c*, *c*, &c., are lesser ditches, running nearly at right angles with the main ditch, *b*, *b*, &c., to carry off the spring water, and aid, also, in draining the meadow, on either side. An embankment is thrown up along the margin of the stream, to prevent it overflowing, except at very high water. Gates are constructed at each end of the lateral ditches, as at *b*, *b*, &c. and *c*, *c*, &c., which can be opened or closed, at pleasure. When it is required to draw off the water from the meadow, the gates at *c*, *c*, &c. are kept open; but when it is wished to inundate, or irrigate it, they are shut, and the gates at *a*, and *b*, *b*, &c., are open.



IRRIGATION.—FIG. 68.

ed, which immediately causes the whole meadow to be overflowed. Hence, when the meadow is too wet, the water can be drawn off, and when too dry, it may be let on, so that a crop of grass may be insured, whether the season be wet or dry. The earth taken out of the ditches is to be employed in making the embankment along the margin of the stream, and for raising the centre of the panes, or beds.

This latter mode is peculiarly adapted to rice fields, wherever the nature of the surface will permit, and the means of irrigation are at hand.

TO DESTROY WEEDS IN WALKS.—Saturate water with chloride of sodium, and pour it boiling hot on the weeds. Be careful you get the right article. It is not expensive. You will find a description of this substance in almost any chemical work. We recommend you to look for it and satisfy yourself that it is not a dangerous substance to have about.

MR. SHEAFE'S SALE OF SHORT HORNS.

This will positively take place at New Hamburg, on Thursday, the 29th of August, as advertised at page 264 of this number of our paper—*rain or shine*. The stock will be tied up and arranged according to the numbers in the catalogue the day before the sale, and on sales day. Thus every one will be able to examine them to entire satisfaction. When the sale commences, an ample ring will be staked out and roped. Into this circle, each animal will be brought when it is put up for sale, and walked round for inspection. As all persons will be kept outside the ropes, this again will give every one present an opportunity of close examination. If there be any unsoundness or vice in any animal on sales day, the public will be informed of it. It is my intention that everything shall be conducted in the most honorable manner; and in doing this, I am happy to add, I shall only carry out the express wishes of the owner of the herd.

Taking their great milking properties into consideration, I doubt whether so valuable a lot of cattle were ever before offered for sale in this country. This is the eleventh year of their breeding, at the High-Cliff Farm, and unbounded pains have been taken with them. Every heifer which did not prove a good milker was invariably immediately disposed of by Mr. Sheafe. A short account is given of their milking qualities in our July number, page 226.

Conditions of Sale.—In order to save time in bidding, and ensure dispatch, the cows and heifers will be put up at a price varying from \$25 to \$100 each, dependent upon the animal. If bid off at the price named when put up, or anything above, it will then be the property of the person bidding, otherwise it will be considered the property of Mr. Sheafe. The bull calves will be put up a \$25 each, and Exeter at \$300. The sheep and lambs will be put up at \$5, \$6, and \$7 per head, as above. The swine at \$5 to \$10 per head, according to age. The working oxen at \$100.

After an animal is bid off, it will then be considered at the risk of the owner; but it can remain on the farm free of expense, one week.

Terms.—For all sums amounting to one hundred dollars and upwards, approved endorsed notes will be taken at six months, or a discount of five per cent. for cash.

How to Reach New Hamburg.—It is on the east side of the Hudson River, eight miles above Newburg and about the same distance below Poughkeepsie. A train of cars runs to and from the city of New York five times each day, and performs the distance in two to three hours. Steamboats from Albany run four times each day, and land at Poughkeepsie, whence cars run to New Hamburg in 15 minutes; thus rendering the place easily accessible for gentlemen coming to attend the sale, from either the east or the west. The fare of each passenger does not exceed eighty-five cents to one dollar, from New York or Albany to New Hamburg.

A. B. ALLEN.

New York, August 1st. 1850.

REMARKS ON IMPROVED FARMING IMPLEMENTS.

PROBABLY there has been no one fact, within the last ten years, which has given so strong proof of a new impulse in favor of agriculture, as the multiplicity of new and improved implements and machines. These are both time and labor-saving, and do the work a great deal better than the old machines ever could do. So, when the farmer can save time and labor in his business, then he saves money; and yet, very few of the mass of farmers, seem to appreciate this doctrine, from the fact that they do not practise it. I well know, that we farmers are too apt to go on the "patch-up plan," in using farming tools; that is, we like to use the old plow, harrow, &c., as long as possible, and much longer than it will pay.

One of the most important and ancient of all agricultural implements is the plow. It is said that, in the early ages of the Christian era, it was simply a crooked stick, sharpened down to a point, while, for a team to draw it, an "old woman and an ass were yoked up together," which was probably the best team they could get. And even now, it is stated by travellers, that, in many districts of Europe, the plow has undergone very little change in its form or construction, for the last three hundred years. It was a great era for the plow, when the iron moldboard first came into use twenty-five years ago. And yet, there is as much difference between the improved iron plows of the present day, and the first ones that came into use, as there was between the first iron plows, and the old wooden ones, which went through the ground more like drawing a sharpened billet of wood, than they did like plowing.

Every farmer knows, or should know, that when a soil is well and thoroughly plowed, that at least two thirds of the labor of the cultivation of the crop, is already done. Hence the necessity of having a plow that works on correct principles. And I am happy to say, that there is at the present time, many kinds of plows that are made to work through the soil with great ease; also doing the work, as a plowman would say, in a scientific manner. Notwithstanding this, there is only now and then a farmer, who knows how to appreciate the difference between these improved plows, and one of the common ones in general use. A common saying with farmers is, "I can buy a plow for five dollars, which will answer my purpose just as well as your 'centre-draft,' that you have to pay ten and twelve dollars for." But stop, farmer, we have heard that doctrine preached so long, that we have learned it by heart; and yet, we mean to say that there is not one word of good sense in the whole of it. It is true that you can buy a plow for five dollars, and it may answer some kind of purpose, and that is about all you can say. The truth is, the cheap plow cannot do the work right, because it never was made right, to begin with, while the ten-dollar plow, is just the article, for it runs through the ground like a charm, doing the work in a perfect manner. Many times I have heard of men being "penny

wise and pound foolish." If that doctrine was ever true, it is so with these farmers who purchase tools to farm with.

Derby, Ct.

L. DURAND.

LONG-ISLAND LANDS.

IN your remarks in the last number of the *Agriculturist*, upon the wild lands of Long Island, you say, "Why emigrants should all be sent off a thousand miles to the west, when there is so much vacant land within a few hours' sail or ride of New York, is more than any one, we think, can answer." The answer to this, is simply, because nobody has ever, heretofore, brought these lands to the favorable notice of those desirous of settling on new lands, and from the opinions entertained and promulgated by the people of Long Island, adverse to cultivating them, and for no other reasons; for these lands are productive, when cultivated like those of other parts of the island.

Let those who doubt this, go and examine the beautiful garden and grounds at Lake-Road Station, where, a year ago, there was nothing but "brush and barrens," and also at Yaphank, and other places east of Lake Road. Nothing can exceed the thrift and vigor which the crops at these places now exhibit. They will compare favorably with any gardens or crops on the old and more cultivated parts of Long Island. E.

Brooklyn, July 16th, 1850.

GREAT CROP OF HAY.—A mowing lot, says the *Springfield Republican*, of H. W. Clapp, at Greenfield, Mass., containing seven acres and one hundred rods, yielded last week, twenty-nine tons and four hundred and ninety-seven pounds of hay, or over four tons to the acre. We think this hay must have been weighed in rather a green state. When so much grass grows upon an acre, it is almost impossible to cure it as dry as when a less quantity is produced. We have no doubt, however, under any circumstance, that it was a magnificent crop. A friend at our elbow, gives it as a decided opinion that this mowing lot was well manured; and, furthermore, that whatever was put upon it, paid as well, in the long run, as digging California dust, or Wall-street speculations.

YOUR NEIGHBORS' HENS.—Do they trouble you? feed them and coax them over your side of the fence and they will leave you all their eggs, and then the owner will take care of them. He will be a little mad at first, but will afterwards laugh at the cunning trick. Try it, it is better than shooting them.

THE BEST MANURE FOR TREES is decayed leaves. To a cord of this, add four bushels of oyster-shell lime and one of salt, and as much charcoal as you like and you will find it a valuable compost for fruit trees or shrubbery. Wood ashes or potash, in moderate quantities, in any shape, will be found valuable.

MANURES—THE FOOD OF PLANTS.—No. 4.

NITROGEN, so important in the formation of the gluten in wheat, and an indispensable constituent of all muscle-forming food of animals, constitutes about 79 per cent. of the atmosphere, but abundant as it is in the air, plants cannot absorb it by their leaves, nor in its simple form by the roots. For this purpose, it must be in a chemical combination with its equivalent of hydrogen, forming ammonia; or with oxygen united to some alkaline base, as a nitrate.

Ammonia is generated in large quantities from stable and other rich manures while passing through the process of fermentation. It escapes in the form of carbonate of ammonia, and passes into the air, and is lost to that farmer who suffers his manure heaps to obtain a great degree of heat. The ammonia in the manure, (as confidently asserted by some, who have written upon the subject,) is the most valuable part of it. Guano is generally esteemed valuable in proportion to the amount of ammonia it is found to contain upon analysis. There are several ways by which this volatile gas can be partially, or wholly arrested in its upward flight, from the fermenting manure. For this purpose, dilute sulphuric acid, gypsum, copperas, charcoal, clay, and sawdust are used. The three first-named will *fix* the ammonia, as the acid will chemically combine with it, forming sulphate of ammonia, a soluble, but not a volatile salt of ammonia. The three last-named substances possess in a great degree, the property of absorbing and retaining for the use of the plants the carbonate of ammonia. It is not only important to the farmer who wishes to grow good crops, to save all the ammonia of his manures, but to obtain from other sources as much as possible. Probably but few, compared with the great mass of farmers, are aware of the great loss they suffer from a lack of knowledge in the proper management of manures. Thousands are careful to save most of the solid part of the droppings of their cattle, while they take no means to save the urine, which is vastly more rich in nitrogen than the dung, as also inorganic matters (with perhaps the exception of silex). I have before me, a statement by Mr. Flietman, of the Geissen Laboratory. He has recently found that the inorganic constituents in the urine and excrements of man, for a period of 24 hours, are to each other as 13 to 2½. That is, that the urine contained nearly six times the amount of earthy salts that the *feces* did. Perhaps, there is not that difference between the solid and liquid excrements of cattle and horses, but I think, I do not hazard much, in saying, that the urine of a stock of cattle, if rightly managed and applied, is worth as much as the manure. Not having a barn cellar, I use at the rate of one bushel of fine dry charcoal and three quarts of ground plaster daily to every ten head of my cattle. This is spread over the hovel floors, with litter of straw and refuse hay thrown upon the coal. The manure is daily thrown under sheds and protected from rain and snow. The charcoal I obtain at our rail-

road depôt—a mile from my farm. There are thousands upon thousands of bushels made daily by the locomotives on our railroads in this country, and probably nearly the whole of which is wasted, a large proportion might be very cheaply obtained by farmers. Charcoal for agricultural purposes is much more valuable than most farmers ever dreamed of.

There are various sources besides what a farmer has about his premises, from which he can obtain materials for increasing the amount of nitrogen for feeding his crops. The fleshings of hides and skins from tanneries—ten pounds of lean meat contains as much nitrogen as 100 pounds of cowdung. Also waste wool from carding mills—woolen factories, &c., refuse fish and fish offal, hair bristles, the droppings of the hen roost, &c. All accidentally defunct animals from a mouse up to an elephant, instead of being unburi'd to pollute the air by their stink, should be covered up, (not buried,) in ten times their bulk of loam, turf, muck, or clay. All the above-named substances yield nitrogen in large quantities, and many of them are equally rich in the phosphates. The phosphates and nitrogen constitute the most important part of all animal manures. If farmers would generally exercise a little more industry and skill in this matter, hundreds of thousands of dollars' worth of extra manure, might annually be made from waste materials that, in many cases, are a nuisance.

At page 64 of your February number, I perceive that one of your correspondents, Mr. Oglesby, of Missouri, has got on the *right track*, as he is in the habit of collecting from *town* a great variety of fertilisers which he gets all "free gratis for nothing"—as thousands of farmers could if they possessed equal tact and go-ahead-itive-ness. He says from reading your paper, he finds these materials all contain the elements of fertility if he only knew how to manage them. I will just say to Mr. O. compost all your materials collected in *town*, with loam, muck, clay, &c., for a few months before using, and you will have a large amount of the "element of fertility" in an available form for your crops, and this you can have without purchasing Bommer's or any other man's patent right for making manure.

LEVI BARTLETT.

Warner, N. H., March, 1850.

SEAYING SOWS.—Have you ever heard of spaying sows, by a new process? Two months ago, I tried with success, and with less pain to the animal, than when done with the knife. It is, to inject with a small syringe, up the uterus, about a wine-glassful of sulphuric acid. This destroys, on the part of the sow, all desire to take the boar. I would inquire whether any other one has tried this plan?

INQUIRER.

SORE NECKS OF OXEN are sometimes cured by covering the yoke with sheet lead. White lead is also an excellent thing to dry up the sores of oxen or horses.

CULTIVATION OF ORCHARDS.

HAVING recently set out a small apple orchard of about 100 trees, and believing I have got on the right track, in the manner of planting out, I am willing your numerous readers should enjoy the benefit of it; and if any of your correspondents know of a better method, I shall be very happy to hear from them on the subject through the Agriculturist.

In the first place, the land is what would be called clayey loam, resting on a subsoil, or hardpan, some two or three feet below the surface, and is consequently wet in the spring and fall, and had been in grass for a few years previous to the summer and fall of 1848, when I plowed and harrowed it well. I then, before the commencement of winter, dug the holes for the trees, 33 feet apart, each way, making them four or five feet or more in diameter, and in all cases as deep as the subsoil. These, I let remain open through the winter, for the action of the frost, and until the ground became sufficiently dry to work in the spring. I then filled the holes to a suitable depth with the surface soil, using no manure. I then set out my trees in such a manner that they would stand about as low in the ground as when standing in the nursery. The ground was then thoroughly manured, and planted with corn and potatoes. While spreading the manure, I was careful to do well by the trees, and in hoeing, I gave them their share of attention.

The consequence is, every tree has lived, and grows well, some having made three feet of wood on the upright branch, the first season. I should have remarked that my trees were small, only two years from the bud, not being able to procure such varieties as I wished, of a larger size; but whether in the end, I shall be the loser in consequence of this, I am not certain. My intention now is, to cultivate hoed crops among them until they are well established, when I may seed it down again for a few years.

Harwinton, Ct., Feb., 1850.

A FARMER.

THE SCOVILLE HOE.

As you require practical articles upon practical subjects, allow me to call your attention to the Scoville hoe. I do not remember when I first saw these hoes, but think it was in the spring of 1848, and that I have cultivated two crops with them. Though this matters not, my object being, first, to advise the hoe to be set a little more scraping. I should advise the setting to be in proportion to the size. No. 1 being for small hands, they require to be even more scraping than Nos. 2 or 3. I have the same hoes that I worked with in '48 and '49, and ordered a new set for other hands. The first set are worn, to be sure, but I would not this day exchange them for other steel hoes. The largest size are set too digging for grown hands. The principal use for hoes, on a cotton plantation, is for scraping, as it is now getting quite common to scrape cotton and corn, and throw up beds of earth to cotton and corn, with the plow. We have tried to set ours, but are fearful of breaking or bending in the blade.

Secondly, the sharpening on the under side

is wrong—I know the opinion of others, and have tried both plans, not only myself, but my negroes have tried them. In using hoes, they wear on the under edge, which assists in keeping a sharp edge. Hoes should always be sharpened on the upper surface, and thus the wear keeps them sharp longer, and besides, they will not bound.

And thirdly, make more of them, so they will not cost so much. My hoes cost, this year, in N. O., No. 1, \$10½, No. 2 \$11, No. 3, \$12 per dozen; freight and commissions, looking at them by some clerk, and entering on books, not less than 75 cts. more, so that my hoes average full \$1 each, when handled and ground for use.

This is too much, or I am in error. I think the same hoe in every respect, ought to be afforded in N. O., at \$8 per dozen, assorted sizes, and at that price, I have no question but what they would be used by seven tenths of the planters. There are some who want hoes at 50 cents each, and who do not believe there is any use in a better one. I ordered 4 dozen for self and three planters this season, but they were not to be had, and I am very sure that, with but little trouble, I could get orders myself for 40 or 50 dozen, at a living, aye, money-making price.

M. W. PHILLIPS.

We can always furnish the above hoes at the following rates, viz. :—

No. 1, improved cast-steel cotton hoes, per dozen,	\$7.25
No. 2 “ “ “	7.75
No. 3 “ “ “	8.25
No. 4 “ “ “	8.75

STARCH FROM INDIAN CORN.

MANY of our readers are not aware of the extent of this new branch of manufacture, which we hope soon to see take the place of whiskey distilleries in the consumption of our great American staple, Indian corn. There is now in operation, at Oswego, New York, a manufactory that consumes 2,000 bushels of corn a-week, which makes 40,000 lbs of the whitest and most beautiful starch for all domestic purposes, whether for the laundry or pantry. The building is 130 by 190 feet, five stories high, (to which an addition is about being erected,) and contains 200 cisterns for precipitating the starch, eleven furnaces with drying rooms, and employs about 70 men, and manufactures upwards of \$120,000 worth of starch, annually. There are two other similar establishments in the United States, and yet the demand is constantly increasing.

It is found that this kind of starch is superior to any other for culinary purposes, because it is always made from clean, sweet corn, the gluten of which is separated by a peculiar process of grinding and washing, the corn being first steeped in a chemical liquor, then reduced to pulp, sifted, and filtrated, and passed into huge cisterns, whence it flows through long, narrow troughs, draining off the water through coarse cotton cloths. In twelve hours, the starch becomes like wet clay, capable of being handled and dried, a process that requires much

care and a powerful heat. The residue of the corn is used for feeding hogs and other domestic animals.

This is a new use of Indian corn, but one, we hope, that will prove profitable to the manufacturer, and induce a very large consumption of this grain, and thereby increase the price to the grower. We should like to have some statistics of the other corn starch manufactories in the country for the purpose of noticing them as being intimately connected with the interest of the agricultural community, and the object of our journal.

SALE OF MR BATES' SHORTHORNS.

As we briefly announced in our last, this great sale of shorthorn cattle took place on the 9th of May last, at the residence of the late Thomas Bates, Esq., of Kirkclevington, Yorkshire. It attracted more attention than any other cattle sale ever before made in England. About 5,000 persons were present, among whom were some of the most distinguished noblemen and gentlemen of Great Britain; and these were not mere lookers-on from idle curiosity, but *actual purchasers*, for the purpose of improving their already choice herds.

The catalogue contained forty-eight cows and heifers, and twenty-two bulls—seventy head in all; but as Refiner, lot 7, of the bulls, was out, and Fifth Duke of York, lot 20, was dead, only sixty-eight animals actually came under the hammer. The bidding was spirited, and the herd realised the extraordinary sum of £4,558 1s., (about \$22,000,) being an average of £67 0s. 7d. each, (about \$325,) and this, let it be remembered, when the farmers of England are suffering exceedingly from the low prices of their products, brought about by the recent great change in the corn laws. Had Mr. Bates made a sale of his stock in 1841 or '42, when the herd was in its glory, and higher prices ruled for agricultural products, we have not a doubt but he would have realised 500 guineas each for several of his animals. We had the pleasure of passing several days with him at his house, in 1841. He told us then that he would not take 800 guineas, (\$4,000,) for the Duke of Northumberland, nor 400 guineas, (\$2,000,) each for Duchess 34th, Duchess 42d, and Duchess 43d. We have understood that he was once actually offered 800 guineas, (\$4,000,) for two of these cows. The Duke of Northumberland, up to that day, was unquestionably equal, and, in the estimation of many, superior to anything of the cattle kind England had ever produced. Of the cows, Mr. Bates preferred Duchess 34th, but our first favorite was Duchess 43d. She was the most perfect cow, according to our notion, we ever looked at. Nevertheless, we do not wish the public to infer from this that we think ourselves anything like so good a judge of shorthorns as that veteran breeder, the late Mr. Bates. On this point, we felt humble enough in his presence, still we had our opinion, and did not hesitate to express it frankly before him, in England, as we do now before the American public.

The principal value of Mr. Bates' herd consisted in his possession of what he called his Duchess tribe. This he very judiciously crossed

with Belvedere, a Princess-tribe bull, bred by Mr. John Stephenson, of Wolviston—the same who bred Exeter, Mr. Sheafe's bull, advertised for sale at page 264 of this number of our paper. Belvedere was the sire as well as the grandsire of the Duke of Northumberland and Duchess 43d.; and their great perfection was undoubtedly owing to this large diffusion of Princess-tribe blood in their veins. Crossed with the good old Duchess blood, it had a wonderful renovating effect. But we must stop, otherwise we should soon fill a volume on this interesting subject; yet, before doing so, we wish it distinctly understood, that in speaking so highly of Mr. Bates' stock, we refer to those animals in it of the Duchess tribe only, after the cross with Belvedere. Of some of the later crosses, we have an entire different opinion.

From all we hear from England, we do not believe the herd, at Mr. Bates' death, was anything like so good as it was in 1841 and '42. But some might think us invidious to enlarge upon this subject at the present moment. We will therefore forbear, and come to the particulars of the sale at once.

COWS AND HEIFERS.

1. Oxford 2d, roan, calved April 20, 1839; got by Short Tail (2,621), d. Matchem Cow. Marquis of Exeter, Burghley House, Stamford—£54 12s.
2. Wild Eyes 5th, roan, calved March 19, 1840; got by Short Tail (2,621), d. Wild Eyes. Mr. A. Stevens, New York, United States—£21.
3. Waterloo 4th, red and white, calved May 20, 1840; got by Cleveland Lad (3,407), d. Waterloo 3d. Mr. Singleton, Givendale, Pocklington—£22 1s.
4. Foggathorpe 2d, white, calved September 14, 1840; got by Duke of Northumberland (1,940), d. Foggathorpe. Mr. Parker, Yanwath Hall, Penrith—£32 1s.
5. Wild Eyes 7th, white, calved November 27, 1841; got by Duke of Northumberland (1,940), d. Wild Eyes 3d. Mr. Jefferson, Preston Hows, Whitehaven—£24 3s.
6. Wild Eyes 8th, roan, calved February 16, 1842; got by Duke of Northumberland (1,940), d. Wild Eyes 2d. Marquis of Exeter, Burghley House, Stamford—£42.
7. Duchess 51st, roan, calved August 18, 1842; got by Cleveland Lad (3,407), d. Duchess 41st. Mr. S. E. Bolden, Red Bank, Lancaster—£63.
8. Foggathorpe 4th, roan, calved December 14, 1842; got by Duke of Northumberland, (1,940) d. Foggathorpe. Mr. W. Sanday, Holmepierpoint, Nottingham—£52 10s.
9. Oxford 4th, red and white, calved August 8, 1843; got by Duke of Northumberland (1,940), d. Oxford Premium Cow. Mr. E. James, Wylam Hall, Newcastle-on-Tyne—£28 7s.
10. Duchess 54th, red, calved October 30, 1844; got by Second Cleveland Lad (3,408)*, d.

* Mr. A. Stevens, now in England, writes us, this is a mistake; that he has Mr. Bates' bulling book, showing Duchess 54th was got by Duke of Northumberland (1,940), which makes no trifling difference in the value of this cow.

- Duchess 49th. Mr. Eastwood, Burnley, Lancashire—£94 10s.
11. Duchess 55th, red, calved October 31, 1844; got by Fourth Duke of Northumberland (3,649), d. Duchess 38th. Earl Ducie, Tortworth Court, Wotton-under-Edge—£110 5s.
 12. Duchess 56th, red and white, calved November 3, 1844; got by Second Duke of Northumberland (3,646), d. Duchess 51st. Mr. H. Ambler, Watkinson Hall, Halifax—£54 12s.
 13. Oxford 5th, roan, calved November 24, 1844; got by Duke of Northumberland (1,940), d. Oxford 2d. Mr. L. G. Morris, Fordham, Westchester-County, New York, U. S.—£74 11s.
 14. Wild Eyes 14th, red and white, calved January 24, 1845; got by Duke of Northumberland (1,940), d. Wild Eyes 3rd. Mr. Jonas Webb, Babraham, Cambridge—£30 9s.
 15. Wild Eyes 15th, red and white, calved April 3, 1845; got by Fourth Duke of Northumberland (3,649), d. Wild Eyes 8th. Mr. T. Fetherstonhaugh, Kirkoswald, Penrith—£32 11s.
 16. Wild Eyes 16th, roan, calved August 1, 1845; got by Second Duke of Northumberland (3,646), d. Wild Eyes. Mr. Higgs, Stamford—£23 2s.
 17. Wild Eyes 17th, red and white, calved August 4, 1845; got by the Second Duke of Northumberland (3,646), d. Wild Eyes 58, Mr. Faviel, Snydale Hall, Pontefract—£43 1s.
 18. Wild Eyes 19th, roan, calved March 20, 1846; got by Second Duke of Oxford (9,046), d. Wild Eyes 10th. Mr. N. Cartright, Haugham, Louth—£63.
 19. Cambridge Rose 5th, roan, calved April 28th, 1846; got by Second Cleveland Lad (3,408), d. Cambridge Rose 2nd. Mr. S. E. Bolden, Red Bank, Lancaster—£47 5s.
 20. Oxford 6th, red, calved November 6, 1846; got by Second Duke of Northumberland (3,646), d. Oxford 2nd. Earl Ducie, Tortworth Court, Gloucestershire—£131 5s.
 21. Wild Eyes 21st, roan, calved February 19, 1847; got by Second Cleveland Lad (3,408), d. Wild Eyes 10th. Mr. A. Morrison, Mountblairy House, Turiff, N. B.—£40 7s.
 22. Waterloo 9th, red roan, calved February 24, 1847; got by Second Cleveland Lad (3,408), d. Waterloo 6th. Mr. R. Ashton, Bury, Lancaster—£79 16s.
 23. Wild Eyes 22nd, roan, calved July 26, 1847; got by Second Cleveland Lad (3,408), d. Wild Eyes 8th. Mr. H. Champion, Ranby House, East Retford—£105.
 24. Wild Eyes 23rd, roan, calved September 3, 1847; got by Second Cleveland Lad (3,408), d. Wild Eyes 9th. Mr. A. L. Maynard, Marton-le-Moor, Ripon—£105.
 25. Wild Eyes 24th, roan, calved September 18, 1847; got by Second Cleveland Lad (3,408), d. Wild Eyes 5th. Mr. Drummond—£42.
 26. Waterloo 10th, red, calved October 27, 1847; got by Fourth Duke of Northumberland (3,649), d. Waterloo 8th. Mr. A. L. Maynard, Marton-le-Moor—£63.
 27. Duchess 59th, roan, calved November 21, 1847; got by Second Duke of Oxford, (9,046), d. Duchess 56th. Earl Ducie, Tortworth Court, Gloucestershire—£210.
 28. Wild Eyes 25th, red and white, calved January 1, 1848; got by Second Cleveland Lad (3,408), d. Wild Eyes 12th. Mr. B. Baxter, Marsden Hall, Colne—£74 11s.
 29. Waterloo 11th, red and white, calved January 29, 1848; got by Second Duke of Oxford (9,046), d. Waterloo 4th. Mr. Eastwood, Burnley, Lancashire—£73 10s.
 30. Wild Eyes 26th, red, calved August 9, 1848; got by Second Cleveland Lad (3,408), d. Wild Eyes 5th. Mr. Haigh, Cameron Bridge, Fife—£31 10s.
 31. Duchess 61st, red roan, calved August 19, 1848; got by Second Duke of Oxford (9,046), d. Duchess 51st. Lord Feversham, Duncombe Park, Helmsley—£105.
 32. Duchess 62nd, red and white, calved October 10, 1848; got by Second Duke of Oxford (9,046), d. Duchess 56th. Mr. H. Champion, Ranby, East Retford—£126.
 33. Oxford 9th, roan, calved October 27, 1848; got by Third Duke of York (10,166), d. Oxford 2nd. Mr. A. L. Maynard, Marton-le-Moor—£42.
 34. Wild Eyes 27th, roan, calved December 8, 1848; got by Second Cleveland Lad (3,408), d. Wild Eyes 17th. Mr. N. Cartwright, Haugham, Louth—£45 3s.
 35. Cambridge Rose 6th, roan, calved December 11, 1848; got by Third Duke of York (10,166), d. Cambridge Rose 5th. Mr. Harvey Combe, Cobham Park, Surrey—£73 10s.
 36. Oxford 10th, red and white, calved December 30, 1848; got by Third Duke of York (10,166), d. Oxford 5th. Mr. L. G. Morris, Fordham, New York, U. S.—£53 11s.
 37. Wild Eyes 28th, roan, calved January 14, 1849; got by Second Cleveland Lad (3,408), d. Wild Eyes 16th. Mr. E. Bates, Cloden, Prussia—£27 6s.
 38. Waterloo 12th, red, calved January 15, 1849; got by Third Duke of York (10,166), d. Waterloo 4th. Mr. A. Cruickshank, Sittyton, Aberdeen—£44 2s.
 39. Wild Eyes 29th, light roan, calved August 3, 1849. got by Third Duke of York, (10,166), d. Wild Eyes 19th. Lord Feversham, Duncombe Park, Yorkshire—£39 18s.
 40. Waterloo 13th, roan, calved August 8, 1849; got by Third Duke of Oxford (9,047), d. Waterloo 9th. Mr. W. Hay, Shethin, Tarves, N. B.—£74 11s.
 41. Duchess 64th, red, calved August 10, 1849; got by Second Duke of Oxford, (9,046), d. Duchess 55th. Earl Ducie, Tortworth Court, Gloucestershire—£162 15s.
 42. Oxford 11th, dark roan, calved August 25, 1849; got by Fourth Duke of York (10,167), d. Oxford 6th. Earl Ducie Tortworth Court, Gloucestershire—£131 5s.
 43. Oxford 12th, light roan, calved August 27, 1849; got by Fourth Duke of York (10,167), d. Oxford 4th. Lord Feversham, Duncombe Park—£85 1s.

- 44 Wild Eyes 30th, calved December 4, 1849; got by Third Duke of Oxford (9,047), d. Wild Eyes 7th. Mr. G. Townshend, Sapcote Fields, Hinckley—£24 3s.
45. Cambridge Rose, 7th, red, calved December 29, 1849; got by Third Duke of York (10,166), d. Cambridge Rose 5th. Mr. J. H. Downs, Grays, Essex—£26 5s.
46. Oxford 13th, roan, calved January 7, 1850; got by Third Duke of York (10,166), d. Oxford 5th. Mr. J. Becar, Smithtown, Suffolk County, New York, U. S.—£66 3s.
47. Foggathorpe 6th, light roan, calved January 8, 1850; got by Third Duke of Oxford (9,047), d. Foggathorpe 4th. Mr. Gardiner—£31 10s.
48. Oxford 14th, roan, calved March 1, 1850; got by Third Duke of York (10,166), d. Oxford 2d. Mr. J. H. Downs, Grays, Essex—£21.

BULLS.

1. Second Duke of Oxford (9,046), roan, calved August 26, 1843; got by Duke of Northumberland (1,940), d. Oxford 2d. Earl Howe, Gopsal, Atherstone—£110 5s.
2. Duke of Richmond (7,996), roan, calved August 8, 1844; got by Second Cleveland Lad (3,408), d. Duchess 50th. Mr. A. L. Maynard, Marton-le-Moor, Ripon—£126.
3. Lord George Bentinck (9,317), roan, calved April 29, 1845; got by Second Duke of Northumberland (3,646), d. Wild Eyes 2d. Mr. Annett, Widdrington, Northumberland—£29 8s.
4. Third Duke of Oxford (9,047), roan, calved October 9, 1845; got by Second Duke of Northumberland (3,646), d. Oxford 2d. Mr. J. Robinson, Clifton, Olney—£64 1s.
5. Third Duke of York (10,166), red, calved October 31, 1845; got by Fourth Duke of Northumberland (3,649), d. Duchess 51st. Mr. G. D. Trotter, Bishop Middleham, Perry Hill—£74 11s.
6. Euclid (9,097), roan, calved December 13, 1845; got by Second Cleveland Lad (3,408), d. Foggathorpe 4th. Duke of Sutherland, Trentham, Staffordshire—£42.
7. Refiner (10,695), roan, calved April 11, 1846; got by Second Cleveland Lad (3,408), d. Wild Eyes 8th. (Not returned home from hire.)
8. Fourth Duke of York (10,167), roan, calved December 22, 1846; got by Second Duke of Oxford (9,046), d. Duchess 51st. Earl Ducie, Tortworth Court, Gloucestershire—£210.
9. Chevalier (10,050), roan, calved August 23, 1847; got by Second Cleveland Lad (3,408), d. Foggathorpe 2d. Mr. Pullen, Borobridge—£43 1s.
10. Parrington (10,590), red and white, calved December 16, 1847; got by Second Cleveland Lad (3,408), d. Wild Eyes 15th. Mr. Fisher—£25 4s.
11. Grand Duke (10,284), red, calved February 14, 1848; got by Second Cleveland Lad (3,408), d. Duchess 55th. Mr. W. Hay, Shethin, Tarves, N. B.—£215 5s.
12. Chieftain (10,048), roan, calved August 11,

- 1848; got by Second Cleveland Lad (3,408), d. Foggathorpe 2d. Rev. W. F. Wharton, Barningham, Yorkshire—£43 1s.
13. Red Rover (10,692), red, calved September 26, 1848; got by Second Cleveland Lad (3,408), d. Wild Eyes 8th. Mr. E. Bates, Cloden, Prussia. £36 15s.
14. Beverley (9,964), red and white, calved October 1, 1848; got by Second Earl of Beverley (5,963), d. Oxford 4th. Mr. G. Townshend, Sapcote Fields, Hinckley—£32 11s.
15. Ebor (10,184), light roan, calved January 31, 1849; got by Third Duke of York (10,166), d. Foggathorpe 4th. Lord Feverham, Duncombe Park, Yorkshire—£94 10s.
16. Balco (9,918), red and white, calved February 23, 1849; got by Fourth Duke of York (10,167), d. Wild Eyes 15th. Earl of Burlington, Holker Hall, Milnthorpe—£162 15s.
17. Retriever (10,707), light roan, calved August 12, 1849; got by Third Duke of Oxford (9,047), d. Wild Eyes, 8th. Earl of Carlisle, Castle Howard, Yorkshire—£52 10s.
18. Duke of Athol (10,150), red, calved September 20, 1849; got by Second Duke of Oxford (9,046), d. Duchess 54th. Mr. Parker, Yanwath Hall, Penrith—£42.
19. Fifth Duke of York (10,168), white, calved October 21, 1849; got by Second Duke of Oxford (9,046), d. Duchess 51st. Mr. R. Bell, Kirkclevington, Yarm—£33 12s.
20. Sixth Duke of York (10,169), red and white, calved December 10, 1849; got by Third Duke of York (10,166), d. Duchess 56th. (Dead.)
21. Crusader, white, calved January 10, 1850; got by Second Duke of Oxford (9,046) d. Wild Eyes 21st. Mr. Blackstock—£42.
22. Wonderful, red and white, calved January 12, 1850; got by Second Duke of Oxford (9,046), d. Wild Eyes 15th. Mr. H. Smith, The Grove, Bingham, Notts. £31 10s.

SUMMARY OF THE SALE.

Duchess Tribe.—Total number sold 14, amounting to £1,627 10s. Average per head, £116 5s.

Oxford Tribe.—Total number sold 13, amounting to £894 12s. Average per head, £68 16s.

4d. Waterloo Tribe.—Total number sold 6, amounting to £357. Average per head, £59 10s.

Cambridge-Rose Tribe.—Total number sold 3, amounting to £147. Average per head, £49.

Wild-Eyes Tribe.—Total number sold 25, amounting to £1,203 6s. Average per head, £48 2s. 7½d.

Foggathorpe Tribe.—Total number sold 7, amounting to £328 13s. Average per head, £46 16s.

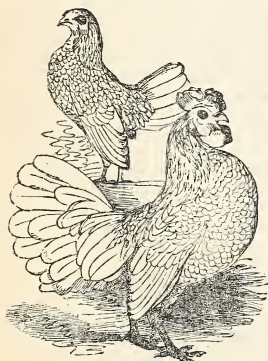
Grand total, £4,558 1s. 0d.

General average, £67 0s. 7d.

DIFFERENCE BETWEEN SELLING MILK AND BUTTER.—Fifteen quarts of milk to a pound of butter, is the common calculation, though in a large dairy, it is more likely to take more than less. In one case, 700 quarts made 36 pounds, which is 19½ quarts to the pound. It sold for 25 cts. a pound, making \$9. The milk, at 2 cts. a quart, would be \$14, which is the usual price that Orange-county farmers get, we believe.

SEBRIGHT BANTAMS.

This is one of the smallest and most beautiful varieties of the Bantam fowl, and is said to have originated with Sir John Sebright, of England. Dixon humorously says of the cock: "His coat is of a rich, brownish-yellow; almost every feather is edged with a border of a darker hue, approaching to black. His neat slim legs are of a light, dull-lead color; his ample tail is carried well over his back. His dependent wings nearly touch the ground. He is as upright as the stiffest drilled serjeant, or more so, for he appears now and then as if he would fall backwards, like a horse that over-rears himself. His full, rose comb and deep-depending wattles are plump and red; but their disproportionate size affords a most unfortunate hold for the beak of his adversary; but he cares not for that, a little glory is worth a good deal of pecking and pinching, and it is not a slight punishment, nor a merely occasional infliction of it that will make him give in. The great hens, too, that look down upon him, and over him, think proper to battle with him on a first introduction, though they afterwards find out that they might as well have received him in a more feminine style."



SEBRIGHT BANTAMS.—FIG. 69.

The hens are rather smaller in proportion to the cock than usual among the Bantams, but their plumage is nearly the same; they are good layers, steady sitters, and most kind and affectionate mothers. The chicks are dark-brown when first hatched, and hardy and easily raised.

The Sebright Bantams may be well called the minikin of fowls. Their diminutive size is really extraordinary—we have occasionally seen them not much larger than a pouter pigeon. In passing an aviary not long since, where they are kept, we were quite amused at the colloquy of a countryman—a green arrival from Yankeeedom. A proud high-spirited little fellow perched on the top of a coop was crowing away to every by-passer lustily enough: "Cock-a-doo-dle-du-u-e." "Why, you don't say so," said he, arrested with evident surprise at the shrill, consequential challenge of Mr. Minikin. "Now du tell, will yer, my little bossy calf, whether you ra-ally be a rooster or a quail?"

"Cock-a-doo-dle-doo," and a smart proud flap of the wings, with a comical wink of the eye, was the gallant Sebright's prompt reply. "Oh, ho! then you be a ra-al rooster man, heh? Why, I kinder thought, like General Tom Thumb, you had just a cleared your shell, and been stuck over with feathers to make a show here, you little winky—" "Cock-a-doo-dle-doo, cur-ragh-r-r-r," with a ruffle of his hackle feathers, showing fight, was Sir Bantam's bold response. "What's that you say, Mr. Peppercorn?—and mighty little at that," continued Greeny, knocking off his hat, and stooping down, with his hands on his knees, and laughing contemptuously in Sebright's face. As quick as thought the Bantam jumped and caught him by the fore-top, and commenced whipping him over the eyes with his wings, greatly to the countryman's annoyance, and the amusement of a crowd of spectators. However, nothing daunted, Mr. Not-quite-so-greeny-now, gently closed the Bantam's wings, took him in his hands, and, holding him up admiringly at arm's length, exclaimed, "Wal, you be *some* in spunk, anyhow, old feller, mighty little as I took you for in body. So I guess I'll buy you and wifey, too; I've long wanted sumthin' to clear my farm of hawks and eagles, and I guess now you'll do it for me, old war hoss, and no mistake—I'm sartin ye would, if you was oney half as stout as ye be brave." So without the slightest hesitation, he paid the high price asked for the pair, chuckling as he did it, half as loud as the Bantam had crowed, and walked rapidly off with his fowls, and we saw no more of him.

A PLOW FOR WET MEADOWS AND ROOTY LAND.

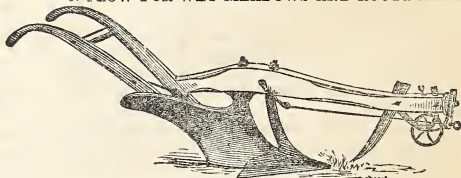


FIG. 70.

The above is a cut of a large four-horse plow, called the sward D. It is made especially for cutting the roots of recently-cleared forest land, and breaking up swamps and wet meadows after draining. It has a movable lock coulter, fastened from the centre of the beam, strongly into the point of the share. This will easily sever roots over two inches in diameter, and cut through the fibrous net work of the stoutest grass. For rooty uplands, the plow share should be made the usual width of wrought iron, steel edge. This is not near so liable to break as a cast-iron share. For wet meadows, the share should be extra wide, of wrought iron, and steel edge. This enables the plowman to turn over flat, a very wide furrow. When thus turned, the sod decomposes much more rapidly, and almost entirely prevents the growth of grass or weeds. It is best to plow such meadows in the driest time, during the months of September or

October; and the following spring, just previous to planting or sowing, lightly harrow lengthwise with the furrows. In plowing wet meadows, in addition to the lock coulter, some use a reversed cutter, inserted near the end of the plow beam, just back of the wheel, as shown in Fig. 70. The object of this is, to cut the sod quicker and more perfectly than the lock coulter is able to do it. The wheel can only be used in tolerably level and smooth land.

A draft rod is attached to the centre of the beam of the sward D plow, (as shown in the cut.) which will bear a much stronger pull than an ordinary clevis. This rod passes through a crane, or dial clevis, which regulates the depth of plowing; it can also be gauged at any given distance from the side of the beam, thus enabling the off ox or horse to keep clear of the *miry open furrow*, so *fatiguing* to him, and tread on the *firm unbroken ground*. This renders it comparatively easy work for the team, and obviates the great objection to breaking up wet meadows. It also enables the plowman to run close along side of a fence or ditch, and thus plow the entire surface of the field. The price of this plow varies from \$12 to \$13.50, according to the fixtures required.

THE MUSK DUCK.



THE MUSK DUCK.—FIG. 71.

The musk duck, (improperly called Muscovy duck,) so termed from the strong scent of musk which its skin exhales, is undoubtedly the type of a genus very distinct from that of the common kind. In this species, the feathers are large, lax, and powdery; the cheeks are extensively naked, and the base of the bill is carunculated. This duck greatly exceeds the ordinary kind in size, and the male is far larger than the female. The general color is glossy blue-black, varied more or less with white; the head is crested, and a scarlet fleshy space surrounds the eye, continued from scarlet caruncles at the base of the beak. Tail destitute of the curled feathers so conspicuous in the tail of the common drake. In a wild state, the drake is of a brownish-black, with a broad white patch on the wings, the female being smaller and more obscurely colored. But in a state of domestication, it exhibits every variety of color, like the common duck.

The tropical regions of South America are the native country of the musk duck, which may account for its dislike to a cold bath in our northern climate. Its frizzled crest is analogous to that of some curassows, natives of the same

continent. It is fond of warmth, passing the night, at the north, not in the open air, but in the fowl house with the cock and hens; and selecting by day, the most sunny corner to bask and doze in.

"Can a duck swim?" is a pert question sometimes asked with little expectation of an answer in the negative. Here, however, is a duck, which, if it *can* swim, performs that action in such a clumsy way as hardly to deserve the name of swimming. Those who expect that its singular appearance would render it a curious, if not an elegant companion, among our more attractive ducks, will be disappointed; for it will never go near the water, if it can help it, but will prefer the farmyard, the precincts of the kitchen, or even the piggery itself, to the clearest stream that ever flowed. In fact, it hates water, except some dirty puddle to drink and drabble in. When thrown into a pond, it gets out again as fast as it can. It does, indeed, sometimes seem to enjoy an occasional bath, and so does a sparrow or a Canary bird. Its very short leg does not appear to be mechanically adapted for the purpose of swimming. It waddles on the surface of a pond as much as it does on dry land; it is evidently out of its place in either situation. Its proper mode of locomotion is through the air; its congenial haunts are among the branches of trees.

The female of the musk duck has considerable powers of flight, and is easy and self-possessed in the use of its wings. It is fond of perching on the tops of barns, walls, &c. Its feet appear, by their form, to be more adapted to such purposes than those of most other ducks. If allowed to spend the night in the hen house, the female will generally go to roost by the side of the hens, but the drake is too heavy to mount thither with ease. His claws are sharp and long; and he approaches the tribe of "scratchers" (rasores,) in an unscientific sense, being almost as dangerous to handle incautiously as an ill-tempered cat; and will occasionally adopt a still more offensive and scarcely describable means of annoyance. He manifests little affection to his female partner, and none towards her offspring. The possession of three or four mates suits him and them, better than to be confined to the company of a single one. He bullies other fowls, sometimes by pulling their feathers, but more frequently by following them close, and repeatedly thrusting his face in their way, with an offensive and satyr-like expression of countenance; or salaciously pursuing them, whether male or female, until he has accomplished his purpose, or at least, has made an attempt.

The musk duck, though a voracious feeder, is easily fattened, a prolific breeder, and consequently, may be profitably reared. The male pairs readily with the common tame duck, producing, by the union, a hybrid, or mongrel, which is incapable of "breeding in a line." The female, however, will pair with the common drake and produce a good sort. The hybrid generally has a deep-green plumage, and is destitute of the red caruncled membrane on the

cheeks, as well as of the musky odor of the gland on the rump.

The eggs are scarcely distinguishable from those of the common duck, and are well flavored. The time of incubation is five weeks; but in all birds that I have observed, the duration of that period varies so much according to circumstances, that a mean of many observations must be taken to arrive at a correct standard. The time required by the hybrid egg, between this and the common duck, is intermediate between the respective periods.

The newly-hatched young, also, resemble those of the common tame duck; they are covered with down, the shades of which indicate the color of the future feathers; and they do not for some time, show any appearance of the tuberculated face. They are delicate, and require some care while young, but are quite hardy when full grown. Their food should be anything that is nutritious, both plenty and a variety of it.

The musk duck is excellent eating, if killed just before it is fully fledged; but it is longer in becoming fit for the table, than the common duck. The flesh is at first high-flavored and tender, but an old bird would be rank, and the toughest of tough meats. It is strange that a dish should now be so much out of fashion as scarcely ever to be seen or tasted, which, under the name of Guinea duck, graced every feast in England, a hundred and fifty years ago, and added dignity to every table at which it was produced.—*Brown's American Poultry Yard.*

A SPECIMEN OF AGRICULTURAL KNOWLEDGE— ARE CORN COBS GOOD MANURE?

THIS question was lately put to me by a gentleman at Jackson, North Carolina. I answered yes, of course; that I considered them highly valuable, &c. To this, another man put in an objection. He cautioned the first person not to use them too freely. If he did, he would not make any corn; "because," said he, "I tried them last season, and where I put them on thickest, I lost all my corn."

"Ah! how do you account for that?" said I.

"Oh! easy enough. *There is so much lime in cobs*, it burnt up the land so that the growing corn all died."

"So much lime in cobs!" I exclaimed; "Well, that is new to me. Are you sure that was the cause?"

"Oh, yes; certainly. What else could it be? I don't believe much in lime, no how."

"Perhaps you did not plow your cobs in deep enough. What kind of land was it?"

"Well, it was good strong clay land, and they were plowed as deep as we ever plow in this country. How deep would you have plowed?"

"Ten or twelve inches?"

"Ten or twelve inches! Well, I don't want you to plow my land. You'd turn the soil all under so deep it never would do any good again."

My dear Sir, I would not only plow that deep, but I would use the subsoil plow, also, and then I don't think that the *lime in corn cobs* would hurt your land."

"You may talk as much as you like, but I know it was the lime in the cobs that killed my corn; and lime will kill any land in this climate; and as for a subsoil plow, I wouldn't let you bring one on my farm; and I don't believe they were ever of any benefit to land in the world."

"What sort of plows do you use, my friend, and how much team to a plow?"

"Why, the common sort of plows in this country; and I never want any plows on my land that one horse can't pull. I've seen enough of your new-fangled Yankee plows—I b'lieve they're just poison to the land, I do; and as for plaster and guano, that you talk so much about, I've tried both and they a'n't worth a cent; no, nor lime either."

Now, I pray you to take notice that this wise man is not only a farmer, but he is an overseer—one who hires for high wages—lets himself and his knowledge and skill to another; sets himself up as a competent teacher of the right mode of farming, manuring, and managing land; and, as you see, understands "agricultural chemistry," about upon a par with nine tenths of his class; and yet this man has charge of an estate that is probably worth seventy or eighty thousand dollars. How can a country improve when nearly all the agricultural operations are conducted by just such bigoted ignoramuses as this man—men that ridicule the idea of learning about farming in a book. And not only that, but when such men as the Messrs. Burgwyn's are conducting their enlightened operations right before their eyes, and, by means of lime, turning old broom-sedge fields into the most luxuriant clover pastures, they not only ridicule them because the first "crops don't pay cost," but contend that lime and deep plowing will ruin any land. How can you teach a man agricultural science, that contends that "lime in corn cobs" killed his corn, and who never reads an agricultural book or paper? S. R.

REMEDY FOR DISEASED SWINE.

A FEW years since, I had a sow with a litter of pigs, one or two days old, taken suddenly sick. When first discovered, she was lying on her side, and would neither eat nor take any notice of her pigs, even when disturbed. I had no expectation of her living one hour, and being no doctor, knew not what to do for her; but having a little croton oil in the house, (the quantity I do not know precisely, as it was nearly all used, except what adhered to the vial, perhaps three or four drops or more,) I mixed it with milk, rolled her on her back, and poured it into her mouth. In two hours, she was on her feet, and in three days, apparently as well as ever. I have given the same kind of oil to hogs that were sick since that time, and believe they have, in all cases, recovered, but in no case with so marked effect, as in the above.

SHELDEN ESBORN.

Harwinton, Ct., June, 1850.

COTTON BATTING, spread very thin over the young plants will shield them from depredations.

REVIEW OF THE JUNE NUMBER OF THE AGRICULTURIST.

Manures.—*The Food of Plants*, is the first article, the sentiments of which I fully agree with. Yes, and besides the thousands of farmers who live near towns where they could obtain "food for plants," in exchange for food for people, there are a thousand other farmers, who live near farms where a vast amount of the same kind of material now goes to waste. How often we see the very essence of the manure pile, upon the few farms, which, by chance, it is sometimes piled, running down some gutter or stream, to furnish food for frogs instead of plants! How often we see piles of unused, spent ashes, lying year after year, keeping company with an ancient pile of rotten chips, that are furnishing food for fat dungworms, instead of a thriving young orchard; for which their can be no better manure. Spent ashes are valuable on account of containing phosphates, lime, magnesia, and silex, in the exact condition that the plants require for food. But the greatest of all waste, probably, about a farm, is in the temple of Cloacina; for there is deposited the very elements that formed the food of man, and should go again to form the food of plants, which in their turn, the human food would reproduce. Bones are wasted upon all farms, and the reason that I have heard given, was, "no way to grind them." Save your ashes, my friend, and make ley and boil them to pieces; or buy a few shillings' worth of potash to do it with. I assure you, it will not hurt your land. Or you can reduce them with sulphuric acid or steam; do not waste them. Remember, if you give food to your plants, they will give food to you. I was in Kentucky the other day, and on my way to Lexington, I stopped a few minutes to look at the farm of my old friend, Thomas Gregg, and while there, measured stalks of blue grass five feet long. Do you think that grew upon a poor starved soil? Such grass as that, in some fields I have my eye on, as I look out in the direction of the blue waters, would make the owners look blue with fright to see such a phenomenon. And so would a sight of some of the Kentucky cattle upon those same blue-grass pastures.

Silk Cocoons.—You say "those you wish to reel may be left in the hot sun a day or two, or a few hours in an oven, &c.," clearly inferring that the sun would kill the chrysalides. It will do no such thing. You might as well try to kill an African negro, by exposing him to the sun. If placed in a tight, glass box, or room, the sun will kill them, and not otherwise. You should have told how to keep the eggs after they are deposited upon the paper; as they will hatch in a few days unless put away in a very cool cellar or ice house; though I have known them kept by laying the sheets of paper between the folds of a linen sheet, and wrapping that in a woolen blanket, and packing in the bottom or centre of a trunk of clothing.

English and American Husbandry.—One sentence in this article speaks of the estimate of cost of putting in and harvesting an acre of wheat upon the Illinois prairies, as calculated by the

writer in Blackwood, at seven dollars. This I think too high; though I have no knowledge upon that subject. But I am sure the amount of labor bestowed upon land, generally, in preparing it for seed, is as much below the proper medium as it is above the mark in England. Your correspondent says an American farmer would plow the land equally well with half the time and team. Doubted. No doubt with a pair of our light, quick horses, and such a plow as the last one I bought at your warehouse, an acre would be plowed quicker, but not better than English plowmen generally do their work.

Cultivation of Timber may do upon land "too poor for cultivation." But keeping vast tracts of fertile lands encumbered with timber, instead of bearing wheat and corn, is poor economy. What if you do depend upon some other country for rail timber, are you poorer for it? On the contrary, where the facilities of transportation are great, the land is worth more without timber than with, everywhere, and particularly in Delaware. Unless the land that C. has planted with pines is absolutely worthless for cultivation, it would be economy to buy coal for fuel, instead of growing such miserable stuff as his pines are for that purpose. Growing chestnut timber may be done to good advantage, upon a thousand waste corners, nooks, and gullies upon many farms; but I never would plant pines upon a tillable soil, even if assured to live "to build a house from the timber."

Wisconsin Farming.—"This and the adjoining counties are fast filling up," &c. What do you call filling up? I recollect the "Western Reserve," as the north part of Ohio was then called, was fast filling up, thirty years ago; but it is not half full yet. The truth is, throughout all the great west, as soon as about one tenth of the choice locations are taken up, the cry is, "the country is filled up," and onward rolls the tide to some other "new country," until we have spread over an immense surface, and no part of it is full, nor fast filling up.

Experiments in Agriculture.—One of the reasons why experiments, particularly failures, are not given to the public, is because that same public have such a wicked disposition to laugh at and ridicule every "experimenting farmer." If a merchant retires from business with a competency, or even an *old sea captain* who has saved a few spare sharks' teeth, for future use, is disposed to spend his money in experiments upon a farm, he at once becomes the butt of ridicule among all who aspire to be considered farmers, in the neighborhood. It is a melancholy truth that a large portion of those who depend entirely upon the soil for support, seem as though they hated everything and everybody that offer to make any innovation upon "the good old rule" that guided their ancestors, and is good enough to guide them. And as though the obstacles to deter experimenters from giving their experience were not already enough, "Coke" must throw in a few more. He tells them they must make a careful analysis of the soil, seed, and labor, and detail everything with the accuracy of a chemist in his laboratory. If

he expects us to do that, he will be very much mistaken. He must take things in the rough, or not at all. Just such as the article upon the

Cultivation of Potatoes.—If this writer had been required to go into all the minutiae, we never should have seen the result of his experiments. Just such another article is that entitled

Value of Seaweed as a Fertiliser.—These are the kind of experiments that a farmer can easily make, and should make, and should report for the benefit of those engaged in the same pursuit.

Manures, No. 1.—The writer says "manures, when judiciously applied, are the great sources of agricultural wealth;" and goes on to show that we all sprung from a dunghill, and cannot live without one. How shall this truth be impressed upon the minds of all who cultivate the earth, that every dollar expended in enriching the soil will pay him a greater interest than bond and mortgage. But I differ with the writer, somewhat, in the way that dollar shall be expended; whether in street manure, marsh mud, homemade compost, or in the purchase of more concentrated fertilisers. Let every farmer try experiments for himself, which is cheapest, the offal of the city, before it goes into the sea, or afterwards, in the form of mud, seaweed, fish, or guano; but let him resolve never to attempt the cultivation of land unless he uses something to make it rich, except when it is already as productive as art can accomplish.

Poultry Raising.—According to the estimate of Mr. Miner, the golden fortunes of some of the maniacs who have lately gone into the hen trade, are not quite so sure as they have counted upon—of course before the chickens are hatched. But still Mr. M. thinks "a fortune can be made on poultry." Let us see how. For my part, I do not believe it ever has, nor ever will be; and that any large outlay of capital with that expectation, will prove an addled egg.

Gapes in Chickens.—Facts stated in this article are good evidences that the most healthy situations for poultry are where the fowls run at large in open, new grounds; and that is about the only place where they are ever profitably raised, for then they get their own living, and live free from disease.

Value of Guano as Manure.—Is it necessary to go to England for facts to prove this? Have we none in America?

Profitable Dogs.—This writer need not draw upon imagination, as he has, to prove how profitable it is to keep dogs. The whole south and a large part of the north and west, are infested with dogs that kill more sheep than are killed by wolves. In fact, in some districts of Virginia, admirably adapted to sheep and wool growing, the business cannot be carried on for the dogs. There is but one way to rid the country of the contemptible pests, and that is to levy a tax upon all owners, and offer a premium for the scalp of every dog that has no owner.

Agriculture of New Hampshire.—I am pleased to see how philosophically this writer treats the jokes, pretty stale ones, too, some of them, that are said and sung about New-Hampshire rocks

and sterility. Notwithstanding the hard granitic soil, there is more grass grown there among the rocks, than some farmers in this Union ever thought of; and grown to good profit, too. If you doubt it, go and look at their sheep and herds of beautiful cows and serviceable oxen. I am pleased with the spirit of this writer, and hope we shall hear from him again. Give us some details of farming in your state. Let southern and western farmers, who complain of hard work to live upon thousand-acre farms, hear from you how many persons can live upon one of one tenth the size, and that, half rocks.

English Race Horses.—I have no objection to this race, nor proper trials of speed. But as things are, and have been long conducted in this country, I have become so disgusted with the very name of race horse, that I can no longer look upon the subject without prejudice. The racing stock of the United States, are notoriously deficient in the good points that constitute a good roadster or farm horse; and the race courses have generally become sinks of immorality, every way injurious to the community; and I would no sooner publish anything having a tendency to commend them, than I would any other manufactory of drunkards. Not that this article does approve of anything of the kind, but I am led into the train of thought by the title. By the by, I suppose it is copied from some English work—but who? What does "Rous" stand for? Some of us rough old farmers are extremely ignorant, and I think I have seen some complaints of your articles being stolen without due credit. Take care that you are not guilty of the same fault. ["Rous" is Lord Rous, the son of a distinguished nobleman, and related to many of the highest nobility of England. He is a great sportsman, and distinguished writer, like the celebrated late Lord George Bentinck, son of the Duke of Portland. In his line, Lord Rous is as well known as Dickens or Bulwer, in theirs, and it would look odd enough if we put more than an author's name to his production. Would the "captain" have us explain who William Shakspeare was, for fear his name at the foot of an article was not sufficient explanation of who wrote it?—Eds.]

Wasting Manures.—Why, I have seen a thousand worse cases than that, and have already spoken of several in the present review.

New and Highly-Improved Iron Horse Power.—"What a long tail our cat has got"—almost as long as this title. And then what a small picture for such a quantity of machinery. Up stairs and down stairs, in the barn and out of it; and if it had not been for a bush at the corner, we could see round behind the barn into the meadow, where that fellow is going to mow as soon as he gets the scythe done that he is grinding. I hope his grindstone has friction rollers—it will almost go of itself, then, and save all back and arm aches. But pray tell me honestly, is this as good a kind of horse power as those known as "the railway horse power, for a small farmer?"

The Princess Tribe of Shorthorns and the Portrait—Mr. Sheafe's Sale of Shorthorns.—Gentle reader, you recollect some comments I made upon a short-horned article in a former number, the meaning of which, from a note of the editor, seems not to be understood. I do not object to pedigrees in their proper places nor to this breed of cattle. It was only to the wordy war between breeders as to which was best, mine or yours. The article now under notice is a "calf of another color." It gives a brief history of this family of cattle for five centuries; and if you desire a more full one, look into L. F. Allen's American Herd Book, and you will find all the information you desire, and full satisfaction that this noble breed of cattle were not made at a single leap by a vile cross with a Galloway cow some sixty years ago. If they were, they have shown a miraculous improvement since; for they are nearly perfect now. Noticing in connection with this subject that Mr. Sheafe's herd were to be sold, I felt an itching curiosity to see them, particularly that bull, Exeter; and so I made an arrangement to meet my friend the senior editor of the *Agriculturist* one day, last week, at the farm at New Hamburg. As I hate railroads even worse than I do steamboats, I hitched old grey to the buggy, and after an easy day's drive of fifty-five miles, alighted at "High-Cliff Farm," where I found the head of our favorite journal, with coat off and stout boots on, turned farmer once more, and apparently as glad to welcome me at "High Cliff" as I was him at "The Valley," when he visited me last summer. So, after an evening stroll, and a good old-fashioned supper of bread and milk, flavored with extra large and luscious strawberries, and such a night's rest as one *may* have after such a day's work; and a breakfast of cold beef, fried potatoes, and sweet homemade bread and butter, and strawberries again, I gave this herd of cattle a thorough examination, and pronounce them just the very next thing to perfection for the rich clover fields of old Dutchess, or the blue-grass pastures of Ohio and Kentucky. But I shall not be persuaded by any of the ardent friends of shorthorns—and in this opinion, I am glad to say Mr. Allen agrees with me—to try them on the rocky hill sides that surround "the Valley." I stick to my Devons as best suited to that section of the country. I shall attend the sale, however. I would not miss it for a good deal, for I understand many of the best breeders in the United States will be there; and their criticisms of the herd and discussions on stock breeding will be worth listening to. I hope young farmers will take this into consideration and be there, too, as it is not often they will have so good a chance so easily to obtain information on the important subject of stock-breeding. The bull, Exeter is as handsome as some of the best I have seen in England; but I predict that he will not suit the majority like some great, coarse brute that stands "higher than my head;" though I have no doubt the liberality that prompted Mr. Sheafe to import so fine an addition to the good stock in this country, will be responded to on the day of sale by

generous bids from the enlightened few. From the appearance of one of his calves I saw, I judge he will become the sire of some very valuable ones in due time. The improvement in stock is now onward, and the sale and dispersion of this herd will serve to give it a greater impetus.

If any one doubts the faithfulness of the portrait under notice, let him visit this farm and he will doubt no more.

I have made a longer notice of this article than I usually do, but to tell the truth, I have become deeply interested in these beautiful cattle, and were I on stronger land, I, too, would go in for a few on the day of sale. What a *big ship* I would sail then! but now I must be content with a *lighter craft*.

The Largest-Sized Wrought-Iron Plow, which you inquire for, I saw a few weeks since on my way to St. Louis. It is used to break up prairie, and is drawn by five stout yoke of oxen hitched to a pair of wheels, to which the forward end of the beam is fastened, which is fifteen feet long. The moldboard is of wood and the share is of wrought iron, weighing 150 lbs. and turns a furrow two feet wide. Is that the size you want? It certainly is the biggest one I know of, and if it suits, you are welcome to the information.

Mr. Robinson's Visit to Jehossee Island is interesting as his letters always are to your readers. Now, Mr. Editor, as I see he is in town, when are we to have the pleasure of *that visit* so long promised, at "the Valley?" My wife and daughters are dying with impatience to see "The Traveller."

Cheap Lands in Virginia.—Cheap enough, truly; but are they good for anything? Give us more particulars. Let the world have light. Not *Paine*-ful light—there is too much smell of *bugs* about that.

Deep Plowing.—How deep? Give us the inches, I should call about fifteen inches deep. Some persons call one third of that deep.

Look at a Scrap of Agricultural History, from Pennsylvania, ye sorrel growers and lime despisers.

A New Clover for the South is spoken of. It is all talk; it will not be raised by a people who hate everything of the name of grass.

Spaying Heifers.—No doubt it improves their quality for work, but did you ever once think that milch cows could be worked just as well as breeding mares, without spaying? [Very likely, but in our humble judgments it is asking too much of a poor cow to bring a calf once a-year, be milked ten months out of the twelve, and work all the while like an ox. May be she could do this, and may be she could not; at any rate, we are not inhumane enough to put a poor beast to the trial. When he wrote this, we opine the "captain" was thinking of what he had seen in his travels in rude Switzerland and Germany.—Eds.]

Yaupon Tea.—Sure enough, "what sort of tea" is that? Something that I have never dreamed of, nor seen in my travels. I have heard of a great deal of *yaupon* over a tea table. If it is a kind that will produce any more *yaupon*, I

shall beg to be excused from encouraging its cultivation.

Remarks on Diet.—These remarks are just like some others that I have heard characterised as “pearls.” Do you remember where they were “cast?” Before some animals that are about as regardless of their diet, as some of the fashionable gormandisers of this “enlightened age.”

Spent Tanners' Bark, a Good Manure for Strawberries.—So is any other spent wood. Nothing better than the fine chips from the wood pile, rotten leaves, or logs from the woods; though, for most people who have none of these conveniences, I would recommend a slight dressing of guano.

Green Vegetable Manure, “has been used for 2,000 years.” Yes, by Nature much longer than that, and will continue to be used, but man is so full of wisdom he thinks he can beat her.

Ah, this is where I am going to stop for a month, with Nature and those who love to read her book and your

REVIEWER.

SHRUBBY CINQUEFOIL.

THINKING that some notice of the *hardhack*, a very troublesome shrub, is desirable, I send you a short description of it and its habits.

Hardhack is applied in books to a species of spiraea, but in this region, it is given to the shrubby cinquefoil, (*Potentilla fruticosa*.) which well deserves it. A warning voice is often raised against the Canada thistle, dock, and other noxious plants, but here we have one which is making its insidious but rapid advances upon us, and public attention has never been directed to it. Even Darlington's Agricultural Botany, treating of useful plants and weeds, contains no notice of it. This plant is a shrub sometimes growing four to five feet high, yet beginning to flower and produce seeds at the height of six inches. It is much branched, with a reddish bark hanging in loose scales and strips, resembling, both in color and appearance, that of the grapevine. Leaves pinnate or divided into 5-7 divisions, and, with the young branches, are covered with fine hairs. The plant is easily distinguished at a distance by its dark bluish-green appearance. It flowers from June to September, producing an abundance of small yellow flowers, similar to the common five-finger, (*Potentilla canadensis*.) at the extremity of its numerous branches. It is a native of New England and the other northern states, and, as here, it chooses a cool, damp situation, I think no danger need be apprehended from it in the southern portion of our country.

The hardhack spreads entirely by its seeds, which are very numerous, and it is the most insidious of all the vegetable plagues which infest the farmer in this region. You will not notice it in any new position, unless care is taken, until it is so firmly established, as to be able to defend itself with considerable obstinacy. A few seeds dropped by birds or carried by the wind take root in a favorable locality, and in a few years, a numerous progeny is established around them. Then, they literally “take the

field,” and as they never give up any position, they may take, except with life, and as they are never known to die of their own accord, well may the farmer be on the “look-out” for them.

Ten years from the establishment of a fort, is long enough for this shrub to spread over several acres; although it prefers a moist soil when it has obtained foothold, it will advance on that which is quite dry, seeming by its shade to keep the ground damp and favorable to it. Twenty-five years ago, it was scarcely known in this region; but now thousands of acres, which were then valuable pasture, are covered with it. Those lands, which, from their moisture or roughness are kept in permanent pasture, are its chosen fields of action.

In meadows, it is prevented from seeding and spreading by mowing, although the roots are not killed by the operation. Plowing, where practicable, eradicates it. Close pasturing, at all seasons, keeps it in subjection, for it rarely obtains much foothold in the highway, although the fields on both sides may be covered with it. Animals eat it sparingly, (as it is very bitter,) with other food, but they will starve on hardhack alone. I have seen where a common rail fence separated a field often plowed from the highway, the latter to be clean as well as the field, with the exception of the fence corners beyond the reach of the plow, where it was nearly as high as the fence and covered with seeds. Plowing where the land will admit, and pulling by hand, seem, as yet, to be the only effectual remedies applied to this pest. The latter is easily accomplished, if taken in season, for large bushes can be pulled without difficulty. And if any one observes a few of them by the side of the brook or marsh, make short work with them at once, as they will soon give you a long job; for here emphatically “a stitch in time saves nine.”

A thorough system of underdraining must accompany our other labors, or we shall be “driven from the field in disgrace. The use of the land, when covered by this plant, may be considered as equal to nothing, so that if the land can be made to yield more than the interest of draining and clearing, we may set that down as clear profit.

I would also propose that attempts be made to establish a growth of timber on lands occupied or threatened by it. Some of our valuable native forest trees might be planted, or perhaps the European larch, (which delights in a similar soil, grows rapidly, and is very valuable for timber,) might be introduced. T. S. GOLD.

Cream Hill, Ct., May, 1850.

HOW MUCH PORK WILL A BUSHEL OF CORN MAKE? —By some experiments tried, it is believed that a bushel of corn, fed to a thrifty hog, will make 12 lbs. of pork. So that corn at 24 cts. is equal to pork at 2 cts., and corn at 72 cts. a bushel is equal to pork at 6 cts. a pound. The manure will more than pay for the labor of feeding and killing the hogs.

MR. ROBINSON'S TOUR.—No. 20.

Benefits of Railroads to Agriculture.—Having given an article upon this subject, as illustrated by the New-York and Erie Railroad, I now propose to give another of similar character upon the South-Carolina Railroad, which connects the city of Charleston by three branches to one stem, with Camden, Columbia, and Hamburg, and thence to Augusta, Georgia, and all the Georgia railroads.

I left Charleston upon my tour of examination on the 14th. of February, which some of my readers at the north will perhaps remember as a severe cold day, while here it was mild and pleasant and free from snow, which never incommodes this road as it does some of those at the north. It is but an act of justice for me to say that I had been provided with a "free pass" by the president of the company, Colonel Gadsden, which I understood had been ordered by a vote of directors, in consequence of my connection with the American Agriculturist. I have some reason to believe that I owe this to my respected friend Colonel Wade Hampton. I certainly look upon it as a compliment to my labors in the cause of agricultural improvement, and a mark of high respect to the agricultural press.

Now, kind reader, if you please, let us journey together. We leave the Charleston Hotel, (one of the best in the Union,) in a large omnibus, which is worthy of notice and commendation, at nine o'clock, and drive about a mile to the dépôt, principally along a plank road, recently laid down in King street, and though not quite equal to a "Russ pavement in the goodly city of New York," it is far better than the deep sands of Charleston. The neatness and order of the dépôt is somewhat in contrast with that of Boston and other places; but the cars are pretty fair, and it is worthy of remark, that the conductors of all the passenger trains I was upon, (and I believe it comprises nearly the whole,) are among the most gentlemanly, well-bred, kind and accommodating officers of my acquaintance. At ten, we are on our way; the Hamburg train a head and the Columbia train following within half a mile, so that both are at Branchville at the same time. Along the first five or miles, we see a succession of vegetable gardens, but, few or no farm houses, for the reason that no white person can live out of the smoke of the city fires, during summer, on account of the extreme unhealthiness of the country.

The road now passes through an almost unbroken forest of flat, sandy, wet land, of pines and scrubby cypress, 62 miles to Branchville, where the Hamburg and Columbia trains part company. Thence to Hamburg is 74 miles and to Columbia 68 miles, with another branch, taking off 25 miles below Columbia, and 105 from Charleston, and running up to Camden, 37 miles, or in all, 142, the three branches making a total of 241 miles. From Columbia, there are two roads building, which will soon be in operation and produce a wonderful effect upon the agricultural industry of North and South Carolina.

One of these roads is to extend 109 miles to Charlotte, N. C., through a rich farming country,

far from navigable water, and the other one to Greenville, S. C., with its branches, will be 160 miles long, mostly through a rich cotton and corn country, and lately found to be very productive in wheat, and only wanting market facilities to make it a very productive and healthy farming region.

From the end of the Hamburg branch, the Georgia Railroad to Atlanta, 171 miles, and the Atlantic and Western Railroad, 138 miles to Chatanogee, making 445 miles from Charleston, in a direct line towards Nashville, Ten., are now in successful operation, and have already benefitted the rich agricultural region through which they pass more than the whole road has cost. From Branchville to Aikin, 56 miles, the quality of the soil and appearance of the country somewhat improves, and is more settled, though but sparsely. The traveller is constantly impressed with the idea that he is passing through the wild forests of some new country, instead of along one of the oldest railroads in the United States, and through one of the oldest states. From Charleston to Aikin, 118 miles, the road has one gradual rise, and is there 513 feet above tide water. Here we descend 176 feet down an inclined plane, 2,640 feet long, towards Hamburg, and down 197 feet more through 18 miles to that place, which is 140 feet above tide. Six miles from Aikin, we pass the neat little granite imitation gothic dépôt of Grantsville, one of the most beautiful and flourishing manufacturing villages in the Union; which probably never would have been in existence if the railroad had not been previously built. This place is well worthy of a visit from every intelligent traveller, and offers strong evidence of the benefits of railroads to agriculture; for, where facilities of transportation are most convenient and cheap, unless the soil is unforbearing, it will be improved, and where manufactories are located and flourishing, there will agriculture be found most improving.

The trip from Charleston to Hamburg, 136 miles, is $8\frac{1}{2}$ hours, and price of passage, \$5. This road was chartered in 1828, and in 1830 the first locomotive was put in operation. This was about the first application of steam upon railroads in the United States. In 1833, the road was opened to Hamburg, and was then the longest road in the world. This was the first railroad in the United States upon which the mail was transported.

The Columbia branch was commenced in 1838 and finished in 1842, and the Camden branch some years later. The following figures will show the increasing usefulness of the road:—

In 1834, the number of bales of cotton transported, was 24,567; in 1835, 34,760; 1836, 28,497; 1837, 34,395; 1838, 35,346; 1839, 52,585; 1840, 58,496; 1841, 54,064; 1842, 92,336; 1843, 128,047; 1844, 186,638; 1845, 197,657; 1846, 186,271; 1847, 134,302; 1848, 274,364; 1849, 339,996—showing an increase, in sixteen years, in this one article, of 315,429 bales over the number transported the first year. What a vast number of horses and men, the carriage of the last year, alone, would have withdrawn from cultivation, to trans-

port all these bales in wagons! The proportionate increase in some other things has been equally great.

In consequence of the facilities of getting turpentine to market, which formerly would not pay transportation by wagons, a few individuals began to levy contributions upon some of the valueless pine forests, and in 1846, the railroad brought down 48 barrels; in 1847, 3,189 bbls; in 1848, 5,753 bbls; in 1849, 13,918 bbls.

In 1849, 66,904 bushels of corn were carried, and 1,507 bbls. flour, though most of that was carried into instead of out of the country. But in the same year, 1,584 head of cattle, mostly beef, and 3,353 hogs, mostly fat, and 328 sheep, and 977 horses were carried; and 16,632 bales of domestic cotton goods were brought down from the interior factories; not one of which would have reached the sea shore, if this railroad had never been built.

The increase of amount received for freight has been upon the same scale. In 1834, the receipts for all freight was, \$83,214.44; in 1844, \$306,155.71; in 1849, \$621,990.32; in 1834, the number of passengers was 26,649, giving \$79,050.35; in 1849, the number was 92,713, and amount, \$223,325.42. The rate of charge for passage is four cents a mile for all distances under 125 miles, and five dollars for all longer distances.

These rates, so much higher than northern roads, are contended for, because, unlike those roads, this could gain no *way* passengers by lower fare, for the very good reason that they are not there to gain.

The rates of freight upon the lightest class goods, are eight cents per cubic foot; and upon boxes, bales, &c., 45 cents per 100 lbs. Upon coffee, sugar, pork, lard, and heavy articles, 25 cents per 100 lbs.

Upon all grain and seeds, (except oats,) in sacks, seven cents per bushel. Oats, five cents. Upon shovels, spades, scythes, brooms, &c., 25 cents per dozen.

Upon plows, wheelbarrows, cornshellers and straw cutters, 50 cents each.

Upon the very things, *particularly plows*, that should be carried almost *freight free*, the heaviest duty is levied. Upon a plow that costs only \$1.37½, at your store, in New York, and a sea freight of only 12½ cents, the farmer must pay *one third of its whole cost* to get it a *few miles* up the railroad. I call the attention of directors of this, and also other roads, to the policy of encouraging the farmers to use improved implements and fertilisers to increase their products, by offering to transport them at more nominal freights, and thereby ultimately increasing their own business profits, and greatly benefiting agriculture.

The freight charged for carrying a single horse or ox, is \$8. For two, \$12, for four, \$20, for ten, \$30, for twenty, \$50.

The road is well furnished with cars and engines, and the Columbia and Camden branches laid with T rails, of 35 to 56 lbs. per yard and the other part is being relaid with the same kind of rails, 51 lbs. per yard, so that the country has the

prospect of a good road, and if the directors will give them cheap freights, the benefits to agriculture incalculably will be great.

It is proper that I should remark that I am indebted to William H. Bartless, Esq., one of the polite gentlemanly officers of the company, most of the statistical information herein given.

I also had the pleasure and advantage of the company of the Hon. H. W. Conner, president of the company, upon a passage from Hamburg round to Columbia, and through his politeness learned much of the history of the road. The inclined plane has been a very expensive affair; it is now operated by a descending locomotive attached to one end of a wire cable, the other end being fast to the ascending train, and the middle working over a drum at the top of the hill. This plane could be avoided without difficulty.

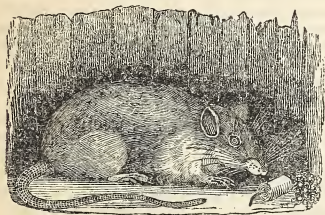
There are no rock excavations, deep cuts, nor high embankments, of any magnitude on the whole road; though there is some pretty long bridging across the Congaree River and Swamp. One of the most striking things noticed by a northern traveller, upon all southern railroads, is the difference in the appearance of the depôts and more particularly the way stations. However, it is only the natural difference between a white man and a negro. The difference between neatness and thriftiness, filth and dilapidation. It is a question of some importance in an agricultural point of view, what will be done or, if anything can be done, to reclaim all the waste lands that we see along this road, lying idle and unproductive, and in a great degree uninhabited and uninhabitable, on account of its malarious character.

In coming up from Charleston to Akin, we see nothing that looks like a hill; and upon the Columbia branch, none till near the Congaree, and only small patches of clearing, and but two or three unimportant towns. The mass of the land, in the lower part of the state, is in the forest, some of it thin sandy upland and some rich swamp that, if once drained, would be very productive in cotton, corn, potatoes, or rice.

The greatest drawback to improvement is the disposition of many persons to buy up all the land that joins them; as for example, my friend Major Felder, of Orangeburg, who boasts of owning fifty thousands acres. For what purpose he desires to accumulate such a vast tract of unproductive land, is past my comprehension—certainly not for his children—and I don't believe he will live long enough to saw up all the timber in his half dozen sawmills. Besides the unhealthiness, however, of a large portion of those lands, between Charleston and Akin, there is another thing to prevent their settlement and improvement by individuals. The country is so flat that it requires some great and general plan of draining, to free it from the surface water, in the first place, and this will not be undertaken so long as labor can be more profitably employed upon soils naturally more dry and rich. The fact is, there is entirely too much land in the United States for the present population.

RAT'S BANE, PROPERLY SO CALLED—A SETTLER FOR THE MILLION.

For the benefit of all who may hereafter fall victims to the rapacity of rats, I will now, as briefly as may be, lay before them my military tactics, and explain how I finally brought up my *corps de reserve*, which gained me a decisive victory. Instead of commencing hostilities at once, on discovering the extent of the ravages committed, I gave encouragement to the enemy, by throwing in his way divers articles of food, such as drippings, lard, meat, bones, fish, and other dainties. This gave him confidence, and threw him off his guard, so that he revelled unsuspectingly among all the good things of this life, while I was secretly plotting his destruction. I took care, meantime, to secure all the hen houses, and shut the inmates up every night, to protect them from their blood-thirsty foe. The great field day was Friday last, a day I shall long remember—I devoted entirely to strategy. *Nil actum reputans si quid superesset agendum*, [Thinking that nothing was done if anything remained to do], I completed all my arrangements before the hour of dusk, impatiently waiting for the rising sun of the morrow. Poison was my weapon; fresh herrings and sprats were my aid-de-camp. The poison was carbonate



THE COMMON BROWN RAT. FIG. 72.

of barytes, ground to an impalpable powder, and phosphorus. An incision was first made in the backs of the herrings, and the carbonate of barytes well rubbed in. The parts were then, as artistically as possible, reunited. The sprats being smaller than the herrings, and more plastic, were pierced through their sides with a sharp piece of deal wood. Had a knife, a fork, or the human hand touched them, all would have been vain. The barytes was then "drilled in," and other sprats not poisoned, were placed above and below them, so that the suspicion was disarmed. "*Latet unguis in herba*!" [There was a snake concealed in the grass]. It should be borne in mind that the barytes is without taste and without smell; hence its great value. The way in which I applied the phosphorus would take more space to detail than you can well afford in one number of your paper. At a future time, I will gladly furnish particulars of this, and other interesting matters, connected with my recent experiments, for I have been both a "sapper" and a "miner."

When the preparations were all completed, I stationed my trusty messengers in every part of the garden and shrubberies—some under trees, some in flower pots, some hidden by a brick, others partly imbedded in the garden walks, &c.

They "did their bidding" right bravely. On coming down stairs, the morning following, I found the enemy had fallen into the snare. There was a serious diminution of the provisions furnished for their repast, and the hand of death was observable on every side. They had eaten ravenously; they had been seized with cruel thirst; they had sated themselves with water; they had "burst their boilers!" To use an expressive, and most appropriate classical quotation, there was a visible "*Decessio pereuntium—successio periturorum*," which clearly proved I had won the day. In a word, two days and two nights had effectually routed the whole army, and I was left master of the field. If it be urged by some, as perhaps it will be, that I am cruel, consider the aggravation, an unprovoked and brutal attack upon a large affectionate family of sleeping innocents, who were ruthlessly snatched from their beds at midnight, torn limb from limb, and their agonised bodies crunched; aye, crunched is the word, between the fangs of murderous assassins. Oh! "had they ten thousand lives, my great revenge has stomach enough for them all."—*Agricultural Gaz.*

PACKING ESTABLISHMENT OF THE MESSRS. FRAZER.

THESE gentlemen have one of the most extensive and complete pork-packing establishments, at Chillicothe, there is to be found in the United States. "It is capable," says the Chillicothe paper "of scalding or singeing 1,200 hogs per day; and ample cellar room for curing this great number, in the mode adopted by the owners during the last two years, for the English market. But the thing that struck us, most forcibly, was the method here adopted of *saving*, and putting to *practical use and profit*, every part of the entire hog.

"First, the blood is carefully saved and barrelled, for the use of the salt manufacturer; the hair and bristles are sold to mattress and brush makers; the offal is cooked immediately, in a large tub for the purpose, and fed to stock hogs. The heads and feet, as soon as taken off, are put into immense tanks for the purpose, and steamed sufficiently, when the lard is drawn from the tap, and used in the manufacture of soap of every variety; the condensed steam drawn from the bottom, amounting to several hundred pounds, daily, is converted into glue. The leaf lard is carefully and cleanly handled, cooked in twelve large kettles, and has, we understand, when manufactured, a reputation both in England and the United States, second to none in either country.

"Attached to an immense boiler is a beautiful engine, that drives circular saws, a cornmill, planing machine, grindstones, and any number of pumps, besides forcing water to every part of the establishment. Here we saw a kettle containing 12,000 lbs. of soap in the process of making, and were told that three days were required to make a boiling; that the usual quantity made was about 24,000 lbs. per week, besides a sufficient quantity of soft soap, to supply the home demand. In one of the cellars are screw presses of 80 tons power, where

tallow is subjected to a *squeeze*, before being manufactured into candles for summer use; and leaf lard to the same process, for the oil it contains, as well as the increased value it gives to the lard.

"If the idea should suggest itself to any one—wherein lies the particular benefit of such an establishment—we would merely state that the farmers of our country are enabled to get remunerating prices, *at home*, for 20,000 to 50,000 hogs per year; and that 100 to 130 laboring men find employment, during five or six mouths of the year, at good wages and 20 to 30 during the whole of the time; requiring an expenditure, in cash alone, which is distributed throughout the county, of over \$200,000 annually."

Superior Hams.—The hams cured at this establishment are the finest we have ever eaten in the United States. Indeed, we do not consider them at all inferior to the best Westphalia, to be found in the London market. They are mild, tender, juicy, and of a flavor peculiarly agreeable to the palate.

The Messrs. Frazer inform us that they find it rather difficult to obtain hams from the swine now raised at the west, sufficiently lean and tender for choice curing. The breeds now reared there by the farmers, lay on too much fat in proportion to the lean, to make a first-rate ham. They have consequently determined to go into the rearing of the Berkshire breed of swine, themselves, expressly for this purpose. They find that the Berkshires make more lean, tender meat, in their hams, in proportion to their size, than any other breed whatever. Of this, we assured the public from our own experience, over and over again, years ago; but they were too careless or credulous to pay attention to what we then said, and the result is, that pure Berkshires are now comparatively scarce in the country. We are of opinion that the western farmers, particularly, will soon find it for their own interest to revive them.

TO COUNTRY GENTLEMEN.

It has always been a matter of surprise to us, that the gentlemen of the United States do not pay more attention in adorning their show grounds with fine, high-bred animals, of different kinds and breeds. Our Creator did not leave Eden thus desolate; but after adorning it with every plant, and shrub, and tree, bearing fruit and flower, he also stocked it with "every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them." "And Adam gave names to all cattle, and to the fowl of the air, and to every beast of the field;" and we have no doubt, that, with himself and the beautiful Eve, it was one of their chief delights to surround themselves with this living creation of beasts and birds, in their daily rambles through the exquisite parks and gardens of Eden, and to watch over and care for them.

Among the noblemen and gentlemen of Europe and their accomplished ladies, this is ever the case; they would think their parks and show grounds desolate enough, unless adorned

with various kinds of domestic animals of *high-bred* race. Even the most powerful potentates do not consider such things as beneath their attention. We have seen high-bred cattle, petted and cared for with the greatest attention by the Emperor Nicholas, of Russia, in his superb park, at the Sarskosella, his favorite summer residence. Prince Albert and the Queen of England possess them in great variety, at Windsor Park, and even at their marine residence, at Osborn House, on the Isle of Wight; and what is most strange to American eyes, is to see herds of noble shorthorns, and flocks of Southdown and Leicester sheep, pasturing in the parks of populous London, greatly to the delight of its numerous citizens, and evidently at as much ease as if on one of the most retired farms of the kingdom. Breeding and rearing fine high-bred stock is the heartfelt delight of English people; and we can add, also, one of their most profitable occupations; for they not only derive vast benefit from it themselves, but they make the whole world tributary to them in the way of purchasing.

The first thing with us, after obtaining possession of land, would be to stock it with improved animals; the second, to plant choice trees and flowers; the third, to erect a handsome house; and the fourth and last, elegantly furnish it, especially with a well-selected library. Usually all this is reversed with our countrymen. First comes a great, staring, ill-constructed temple of a house; second, gaudy furniture; third, a gravelled path or two and a few trees or flowers; fourth, stowed away in an old shed or secluded pasture, some three or four mean, slab-sided, coarse, raw-boned cows, whose only merit is giving a big mess of watery milk! Not a chick, not a rabbit, not a pet lamb, not even a musical bossy calf, frolicking colt, nor dappled fawn, sets foot on their ground; they have no taste for such; and, besides, they are dreadful 'fraid it would be *vulgar*. Thus all about them is in a measure uninhabited and desolate. We have occasionally known the boys to rob their nests, and then stone away or shoot every bird that made its appearance on their ground. But, for the honor of our countrymen, we will add that this is very rare. Nine tenths of those who are seen prowling about the pastures, woods, and fields, in the vicinity of our large cities, are foreigners.

LARGE STRAWBERRIES.—We do not know when we have been more gratified, than by a present from Mr. Matthews, of several quarts of the largest and finest kinds of strawberries, grown by him in the garden at High Cliff. Some of these were $5\frac{1}{4}$ inches in circumference, and of a delicious flavor. He has succeeded in growing the Prince Albert, and Keen's seedling, with the same success as the Hovey. He plants every third row among them, with early scarlet. By this method, and general judicious cultivation, he gets abundant crops, and of large size. He showed us Prince Alberts, from $4\frac{1}{4}$ to 5 inches in circumference.

Ladies' Department.

SOUTHERN RECIPE FOR OKRA SOUP.

VERY early in the morning, set the pot over the fire with a shin of beef, washed and picked clean, and ten quarts of cold water; add a table-spoonful of salt. When it boils, draw it from the fire, and carefully take off the scum. If the scum should sink, it must be strained through a cloth that has been washed in scalding water to remove the unpleasant taste, a cloth is apt to communicate to hot liquids which pass through them. While the soup is boiling, throw in a peck of okra cut in slices, and three or four small onions. About an hour afterwards, add two quarts of tomatoes peeled, and cut in slices, throwing out the seeds. Season with pepper, and such herbs as suit your taste. Let it boil slowly until dinner time. Pick the bones and meat carefully out; cut up some of the gristle in short pieces, and return them to the soup; and then throw a few leaves of fresh parsley on it, after it is in the tureen.

M.

WASHING MADE EASY.—Do not be humbugged out of a dollar for anything with this title. Here is the whole secret from an English paper:—Dissolve $\frac{1}{2}$ lb. of lime, in boiling water, straining twice through a flannel bag; dissolve separately, $\frac{1}{4}$ lb. of brown soap and $\frac{1}{4}$ lb. of soda; boil the three together. Put six gallons of water into the boiler, and when boiling, add the mixture. The linens, which must have been steeped in cold water for twelve hours, are wrung out, the stains rubbed with soap, and put into the boiler, where they must boil for thirty-five minutes. They are then drawn, (the liquor being preserved, as it can be used three times,) placed in a tub, and clear boiling water poured over them. Rub them out, rinse them well in cold water, and they will be ready for drying.

CORN BREAD.—Readers never tire of recipes for something good to eat. Here are two for corn bread worth trying:—

Mix three pints of Indian meal in a quart of sour milk; add three eggs, a tea-spoonful saleratus, and some salt; beat all to a smooth batter, and pour in pans half an inch deep, and bake quick. This is a sufficient breakfast for half a dozen.

Here is one for family bread:—Six quarts of water, one pint of lard, one pint of yeast, and a tea-cupful of salt, mixed with meal enough to make a batter. Let it rise and then put in pans to bake.

TO PREPARE BEES' WAX.—To obtain wax, boil the combs in a strong muslin bag, in a saucepan, with water sufficient to keep the bag from burning; and whilst boiling, continue to press the bag with a wooden slice or spoon, to extract the whole, as you skim off the wax. Drop the wax into cold water, where it will swim on the surface. The wax thus obtained will still want refining, to effect which, place it in a clean

saucepan, and melt it over a slow fire. Then pour off the clear wax into proper vessels, and let it cool. To whiten it, make it in thin cakes, and expose it in the sun.

SPONGE CAKE.—Take six eggs; two tea-cupfuls of sugar; one and a half of flour; and one tea-spoonful of cream of tartar; one tea-spoonful of soda; and one tea-spoonful of essence of lemon or nutmeg. Beat the whites of the eggs till very light, mix the yolks with sugar, and add the whites gradually to the yolks and sugar. Mix the soda and cream of tartar with the flour, add the former mixture, and add the essence of lemon or nutmeg. The whole should be stirred slowly till the top of the mixture is covered with bubbles. Bake in a quick oven. It is eatable, you may depend upon it.—*Prairie Farmer*.

SWEET BACON.—This may be a little more difficult, but there is not much risk if salted immediately, and well rubbed in, first adding a table-spoonful of sugar and a tea-spoonful of salt-petre to each ham, using about six pounds of salt to 100 lbs. of meat. Do not make smoke with rotten wood nor old chunks. See that the servant who has charge of it, never uses anything but sound green wood—hickory, maple, ash, or elm. Some use cobs. We cannot recommend them. Let the smoke house be open and do not try to smoke too fast.

TO PREVENT DAMPNES IN WALLS.—Use a paint made of one part bees' wax, three parts boiled linseed oil, and one tenth part of litharge, put on hot. The wall should be entirely dry, and, if possible, heated. Three or four coats will render a stone or brick wall impervious to moisture.

TO PRESERVE CUT FLOWERS FRESH.—Add a pinch of nitrate of soda, or nitrate of potash. (saltpetre,) to a tumbler of water, every time you change the water.

CHARCOAL IN CISTERNS.—Two gallons of fine charcoal will purify a dozen hogsheads of water, when the smell is so unpleasant it cannot be used.

CEMENT FOR ALABASTER.—Make a paste of white of egg and finely-powdered quicklime; or else take a little newly-baked and powdered plaster of Paris, and wet it slightly, and use immediately.

SWEET LARD.—To have this at all times, let the pork be cut up just as soon after killing as you please—render it without water, and be sure you cook it till well done; pack it in stone jars, or sweet oak tubs.

TO CLEAN MARBLE MANTLES.—Dip a woollen cloth in a weak solution of carbonate of soda.

RED ANTS, can be kept out of closets and other places by impregnating the air with camphor, as this odor is offensive to all the insect family.

Foreign Agricultural News.

By the steamer Atlantic, we are in receipt of our foreign journals, to the 10th of July.

Markets.—*Ashes*, firm, at an advance of one shilling. *Cotton*, an advance of $\frac{1}{4}$ d. per lb., with large sales. *Corn*, 6d. to 1s. higher per quarter. *Provisions*, a little lower, with the exception of bacon. *Lard*, an advance of 6d. per 100 lbs. *Naval Stores*, and other American products, no change.

Guano Water.—Half a pint of guano dissolved in 6 or 8 gallons of water, and applied as circumstances require, has been found of service to many kinds of flowers.—*Gardeners' Chronicle*.

To Keep Flies out of the House.—Stretch threads across the windows, at the distance of a quarter of an inch. Flies will not pass them readily.—*Ibid*.

Poultry Management.—My poultry are of the same sort as may be found in any of the neighboring farmyards; the eggs of the largest and best hens have been selected for sitting, so that the stock consists of birds capable of covering 15 eggs, which is the largest number I ever placed under a hen. The cocks are changed every two years, taking care to supply their place with fine, healthy birds of the previous year. Hens are useless after the third year; my plan is, in a stock of, say 30 hens, to introduce 10 young pullets every year, and part with ten of the oldest hens. One male bird must be kept to every seven hens; but when more than fifty hens are kept, one to every six is necessary. On the proportion of male birds kept, depends, I am confident, the number, as well as the successful fecundation of the eggs. About a month since, as an experiment, I placed 13 eggs, which I had procured from a farmyard where the proportion of male to female birds is about 1 to 15, under a hen and mark the result. From 13 eggs were produced three chickens; seven of the eggs, at the end of three weeks, were almost as fresh as when just laid, and three were added.—*Correspondent in Agricultural Gazette*.

Mr. Huxtable's Mode of Saving Manure.—The sheep, pigs, and cattle on the farm of Mr. Huxtable, at Waldron, stand, for the most part, on board floors. The framework on which they stand is made of spars, with interstices half an inch wide, through which liquids pass with ease. The sail flooring, however, must be perfectly level, and raised 6 inches from the water-tight brick or stone flooring below, the under part being inclined to the drain communicating with the tanks. The space below the floors admits of room for a scraper like a gardener's hoe, used in cleansing out any manure that falls through between the interstices of the spars. Each wooden spar must be 2½ inches wide, and 1½ thick. Still, cattle cannot well do without a little straw spread on the boards; much less, however, suffices, than when they stand on a brick or stone basement.—*Gardeners' Chronicle*.

Roots Choking Drains.—In a recent case, where some poplar and larch trees stood about 16 to 18 feet from the line of a main drain, laid through a field, it was found that in two years the drain had become choked with roots, and it is believed that in many instances, where drainage has not produced, those improvements in land which were anticipated, and even where hedgerows cross or adjoin any portion of a main drain, the cause may be an obstruction of this nature. In the case quoted, however, the precaution of placing vertical pipes at the junction of each of the parallel drains with the main, aided greatly in pointing out the cause. The drains in this case are said to have been made of horse-shoe tiles, well laid, and fitting closely at the joints.—*Builder*.

Death of Mr. Smith, of Deanston.—We regret to announce the sudden death of James Smith, of Deanston, the eminent agriculturist. He was found dead in his bed in the 10th of June. He was acknowledged to have been the inventor and chief promoter of the modern system of thorough drainage; that is, the drainage through the land by pipe drains, instead of over the land by surface drains. More recently, he had been engaged as one of the superintending inspectors of the General Board of Health, by whom his exertions were more especially directed to the application of the sewerage water, and refuse of towns, to agricultural production. He was noted for his fertility of invention, and a very high order of talent. He was personally highly esteemed by those who served with him, and by whom he will be greatly lamented.—*Condensed from the Times*.

Cotton Cultivation in India.—Mr. Bright lately, moved in the British House of Commons, for an address to the crown, praying her Majesty to appoint a commission for the purpose of proceeding to India, to inquire into the obstacles which prevent an increased growth of cotton in that country, and to report upon any circumstances which may injuriously affect the economical and industrial condition of the native population, being cultivators of the soil, within the presidencies of Bombay and Madras. He said that his constituents were agreed upon the propriety of his motion, and that Manchester was convinced that the prosperity of its trade was intimately connected with this question. The cotton trade employed nearly 2,000,000 of the population, and had a greater capital engaged in it than any other trade in the United Kingdom; therefore, it was of the utmost national importance to have the raw material for this extensive manufacture, obtainable, if possible, from their own colonies. He contended that the East Indies was peculiarly well qualified for the growth of cotton, and that a judicious cultivation of it in that empire would confer immense advantages on India, as well as on Great Britain, and all her dependencies.

Dissolving Bones by Sulphuric Acid.—Various quantities of acid have been named as the proper quantity. If the bones are to be completely decomposed, half their weight in acid will be required; but we do not think it advisable to complete their decomposition, as a portion is then left for the following crop; at the same time, a sufficient quantity of the bones being rendered soluble for the wants of the present crop.

Our method of dissolving bones, is as follows:—We do not give it as being better than other methods, only that we have found it to answer the best.

Into a tub or cistern, place a quantity of crushed bones, the weight having been previously ascertained; level them, and add sufficient water to cover them one inch deep, adding sulphuric acid to the amount of half the weight of bones, stirring the mixture occasionally, for 36 hours. If the acid is good, and the bones free from chalk, the whole will have become a thick fluid by that time. This is the best method when it is intended to apply manure or other tillages for the wheat and seeds; but if it is intended to carry out through a whole course of cropping, a fourth of the weight of bones in acid is sufficient, as it only decomposes a portion of the bones for the immediate food of the first crop, and leaves the other portion for the assimilation of the following crops as required. The decomposed bones are then mixed with sawdust, ashes, or other materials that will pass through the drill.

Some persons add large quantities of water, and apply it in a liquid state; the great objection to this is, the extra labor required, and the uncertainty of its even application.—*Farmer's Herald*.

Editors' Table.

THE SOUTHERN PICTORIAL ALMANAC.—This is the title of a handsomely got up work, of 40 pages, edited by a seemingly new candidate to Almanac fame, and a totally unknown personage to us, ycleped in the title page, "Uncle Solon," and published by A. B. Allen & Co., of New York. Of these latter gentlemen we suppose the southern public have occasionally heard, though not exactly in their present line as "publishers." [We wonder if they have any intention of rivaling the Harpers? If so, we shall advise our Cliff-street friends to keep a sharp lookout to windward, as Captain Reviewer would say.] But as to "Uncle Solon," we know nothing at all about him, and we expect he will prove a second Junius, or may be, a resurrection of the Iron Mask, at least till every man and "boy," south of Mason and Dixon's line, take his Almanac in hand, and commence "reckoning" over his incognito. Whether he will then be discovered, we cannot say; yet, this much we opine, that one and all will have many a hearty laugh over the quaint sayings of the aforesaid "unknown," and the racy dialogues of his dramatic persona—nor will they find a large fund of useful information forgotten in his pages—and such weather *as is weather*, foretold them, for every day in the year, with marvellous exactness. The meridian of Charleston is used for the calendars of this Almanac; and, in fact, it is pure, unadulterated southern, throughout, with none of your piebald mixtures from the north. This work offers an excellent medium for advertising. We will give one page of advertisements to any person desiring it, and furnish the Almanac, at \$15 per thousand. This is very low for a work so useful, humorous, and handsomely embellished and printed.

THE NORTHERN ALMANAC is got up, edited, and published the same as the above, calculated for all the northern and western states. Orders, respectfully solicited.

THE FARMER'S EVERY-DAY BOOK; or, Sketches of Social Life in the Country, with the Popular Elements of Practical and Theoretical Agriculture, and 1,200 Lachonics and Apophegms relating to Ethics, Religion, and General Literature; also, 500 Receipts on Hygiean, Domestic and Rural Economy. By the Rev. John L. Blake. Auburn, N. Y. Derby, Miller & Co., pp. 654, octavo. Price \$3. From a hasty examination of this volume, and the reputation of the author, we should judge that it is a pleasing book, well suited for family reading.

AMERICAN POMOLOGICAL CONGRESS.—In conformity with the resolutions passed at the last session of this National Institution, its next meeting will be held in the city of Cincinnati, Ohio, on the 11th, 12th, and 13th days of September next, 1850. The Ohio State Board of Agriculture, and the Cincinnati Horticultural Society will also hold their annual exhibitions at the same time and place, and the latter have generously offered to provide for the accommodation of the congress. All agricultural, horticultural, pomological, and kindred societies in the United States and the Canadas are hereby respectfully invited to send such number of delegates as they may deem expedient.

Packages of fruit, not accompanied by its proprietor, may be addressed to the care of Messrs, John F. Dair & Co., Lower Market street, Cincinnati, Ohio. These should be very distinctly marked "For the American Pomological Congress."

LARGE FLEECES.—Mr. L. G. Collins writes us, under date of June 10th, "My improved Merino ram, sheared 17 lbs., and my yearlings, from 11 to 14½ lbs., unwashed wool, which sold readily at 27 cents per pound."

THE JOURNAL OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.—The Executive Committee of the New-York State Agricultural Society have long felt the necessity of some channel of communication, through which the proceedings of their monthly meetings could be fully given to the public. The space which has been liberally afforded them in the daily journals of this city, they duly appreciate, but the increase of the correspondence, and business of the society require much more room than they have any right to ask or expect from any of the daily papers of the city. They have decided to issue monthly, a journal of their proceedings, in which will be contained the proceedings of the society and the executive committee, and such communications and articles of interest as are from time to time received. They will be enabled in this way to give much more fully than heretofore, matters interesting to farmers, which come before them, and to obtain by this means more extended circulation among all classes of community. The journal will be forwarded to the officers and correspondents of the society, state and county societies, to the agricultural papers, and such other papers as may desire an exchange, on application to B. P. Johnson, Secretary of the Society, Albany, N. Y.

IMPROVED STOCK FOR NOVA SCOTIA.—In the month of June last, we had the pleasure of a call from James Irons, Esq., Secretary of the Nova-Scotia Agricultural Society. He was sent by this society, to the United States, for the purpose of procuring improved stock, farming implements, plants, seeds, &c. Of the former, he selected one Ayrshire bull and three heifers, from Mr. Prentice, of Albany, N. Y., one Hereford bull and one heifer from Mr. Corning, of the same place, and one Devon bull of Mr. Buckminster, of Boston, Mass. He represents them all as fine animals of their kind. Mr. Irons looked over Mr. Sheafe's stock of shorthorns, at New Hamburg, and was much pleased with them. He would have purchased some of these, but in justice to the public, after advertising them for sale, at auction, we could not withdraw anything from the herd. Mr. I. also purchased fourteen head of pigs, of the Suffolk and Essex breeds, of Mr. Stickney, of Boston, Mass.; and at different conservatories, greenhouse plants, &c. We are always much pleased to welcome intelligent strangers among us, more especially when they come here with the object of Mr. Irons. We trust the stock will do well, and that the members of the Nova-Scotia Society, may find great benefit from the introduction of the above fine animals, &c., among them.

THE LONG MOSS, that covers the forests of the south, has lately been applied to the manufacture of cotton bagging, by a process of preparation discovered by Colonel Moseley, of Mississippi. We have often wondered that this strong, fibrous plant has not been put to some use besides stuffing mattresses and cushions, before this time. We hope this new application of such an abundant material may prove successful.

ANOTHER NEW VARIETY OF POULTRY.—A bird nearly equalling the turkey in size and quality of flesh has lately been introduced from South America, called the curassow. We understand Mr. Colt, of Paterson, has some. They have been domesticated heretofore in Europe, but with what success, we are not informed.

PINE APPLES IN FLORIDA.—The cultivation of the pine apple has been commenced in Florida; and, with a little protection occasionally in winter, it is believed this delicious fruit can be raised in that state in abundance.

SULPHUR ON ONION PLANTS, it is said, will kill, or expel the little troublesome maggot.

Review of the Market.

PRICES CURRENT IN NEW YORK, JULY 20, 1850.

ASHES, Pot.,.....	100 lbs.	\$6 00	@	\$6 06
Pearl,.....	" do.	6 00	"	6 12
RALE ROPE,.....	" lb.	9	"	11
BARK, Quercitron,.....	" ton.	39 00	"	41 00
BEANS, White,.....	" bushel.	75	"	125
BEEFWAX, American, Yellow,	" lb.	20	"	26
BOLT ROPE,.....	" "	10	"	11
BONES, Ground,.....	" bushel.	45	"	55
BRISTLES, American,.....	" lb.	25	"	63
BUTTER, Table,.....	" "	15	"	25
Shipping,.....	" "	9	"	15
CANDLES, Mould, Tallow,.....	" "	25	"	47
Sperm,.....	" "	25	"	30
Stearine,.....	" "	5	"	10
CHEESE,.....	" "	5	"	10
COAL, Anthracite,.....	2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....	" lb.	11	"	13
COTTON,.....	" "	10	"	15
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,.....	" lb.	30	"	40
FLAX, American,.....	" "	8	"	9
FLOUR, Ordinary,.....	" bbl.	6 00	"	5 75
Fancy,.....	" "	6 00	"	6 50
Richmond City Mills,.....	" "	6 50	"	6 75
Buckwheat,.....	" "	2 75	"	3 00
GRAIN—Wheat, Western,.....	" bushel.	1 00	"	1 50
" Red and Mixed,.....	" "	90	"	1 15
Rye,.....	" "	62	"	64
Corn, Northern,.....	" "	62	"	65
" Southern,.....	" "	59	"	63
Barley,.....	" "	60	"	65
Oats,.....	" "	42	"	50
GUANO, Peruvian,.....	2,000 lbs.	50 00	"	50 00
Patagonian,.....	" do.	31 00	"	35 00
HAY, in Bales,.....	" 100 lbs.	65	"	70
HEMP, Russian, Clean,.....	" ton.	210 00	"	215 00
American, Water-rotted,.....	" "	160 00	"	200 00
" Dew-rotted,.....	" "	140 00	"	175 00
HIDES, Southern, Dry,.....	" "	9	"	10 1/2
HOPS,.....	" lb.	6	"	18
HORNS,.....	" 100.	2 00	"	10 00
LEAD, Pig,.....	" 100 lbs.	4 38	"	4 75
Pipes for Pumps, &c.,.....	" lb.	5	"	7
MEAL, Corn,.....	" bbl.	2 75	"	3 25
MOLASSES, New-Orleans,.....	" gallon.	23	"	30
MUSTARD, American,.....	" lb.	7	"	10
NAVAL STORES—Tar,.....	" bbl.	1 50	"	1 75
Pitch,.....	" "	1 25	"	1 75
Rosin,.....	" "	1 25	"	1 30
Turpentine,.....	" "	2 44	"	2 75
Spirits of Turpentine,.....	" gallon.	30	"	33
OIL, Linseed, American,.....	" "	73	"	77
Castor,.....	" "	1 65	"	1 75
Lard,.....	" "	58	"	65
OIL CAKE,.....	" 100 lbs.	1 25	"	1 50
PEAS, Field,.....	" bushel.	75	"	1 25
Black-eyed,.....	" 2	2 00	"	2 25
PLASTER OF PARIS,.....	" ton.	2 00	"	2 75
Ground, in Barrels of 300 lbs.	" "	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	" bbl.	8 50	"	11 00
" Prime,.....	" "	3 25	"	8 00
" Smoked,.....	" lb.	6	"	12
" Rounds, in Pickle.....	" "	4	"	6
Pork, Mess,.....	" bbl.	10 00	"	12 00
" Prime,.....	" "	6 50	"	10 00
Lard,.....	" lb.	6	"	7
Bacon Sides, Smoked,.....	" "	3	"	4 1/2
" in Pickle,.....	" "	3	"	4
Hams, Smoked,.....	" "	5	"	9
" Pickled,.....	" "	4	"	6
Shoulders, Smoked,.....	" "	6	"	7
" Pickled,.....	" "	3	"	5
RICE,.....	" 100 lbs.	2 25	"	3 75
SALT,.....	" sack.	95	"	2 00
" Common,.....	" bushel.	20	"	35
SEEDS—Clover,.....	" lb.	6	"	9
Timothy,.....	" bushel.	2 00	"	3 50
Flax, Clean,.....	" "	1 60	"	1 65
SODA, Ash, (80 per cent. soda),.....	" lb.	3	"	—
Sulphate Soda, Ground,.....	" "	1	"	—
SUGAR, New-Orleans,.....	" "	4	"	6
SUGAR, American,.....	" ton.	35 00	"	37 00
TALLOW,.....	" lb.	6	"	7
TOBACCO,.....	" "	2	"	11
" Eastern, Seed-leaf,.....	" "	15	"	20
" Florida Wrappers,.....	" "	15	"	60
WHISKEY, American,.....	" gallon.	25	"	26
WOOLS, Saxony,.....	" lb.	40	"	60
Merino,.....	" "	35	"	40
Grade Merino,.....	" "	30	"	35
Common,.....	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—70 cows and calves, and 5,000 sheep and lambs. Owing to the holiday of Saturday, no beef cattle were driven to market, and consequently there was no business done at the drove yard to-day.

Cows and Calves.—All in market were taken at prices ranging as in quality, from \$30 to \$47.

Sheep and Lambs.—All offered were taken at \$2.50 to \$7 for sheep, and \$2 to \$4 for lambs. The market closed quite brisk. July 15.

REMARKS.—This is a very dull business month, and we have nothing of the slightest interest to note in the market.

The Weather has been very sultry, with a destructive rain storm on the morning of the 19th. Crops and trees innumerable, almost, were blown down, and much other damage done. The hay crop is bountifully large. Wheat and other small grain have come in better than was anticipated two months ago; at the south, considerable suffering from the rust. Corn is growing with great rapidity, and is now a highly promising crop. Potatoes, and other roots the same. Cotton, Sugar, Rice, and Tobacco are doing fairly.

TO CORRESPONDENTS.—Communications have been received from L. Durand, M., A. E. Ernest, E. Cornell, Thomas B. Coursey.

ACKNOWLEDGMENTS.—Revue Horticole from Paris; A Brief Historical, Statistical, and Descriptive Review of East Tennessee, in the United States of America, developing its Agricultural, Mining, and Manufacturing Advantages. By J. Gray Smith, a naturalized citizen, London, 1843; Transactions of the Michigan State Agricultural Society, with Reports of County Agricultural Societies, for the year 1849.

OUR AGENT at BOONVILLE.—We wish to say to the gentlemen in Missouri, that the efforts of Mr. Oglesby, in behalf of the Agriculturist, are entirely voluntary, and without fee or reward of any kind whatever. We have frequently pressed him to take the usual commissions allowed agents, in obtaining subscriptions for our paper; but this he invariably refused, saying that he could not do such work for money; the hope of benefitting agriculture and his fellow planters, must be his reward for all such exertions. We bespeak for Mr. Oglesby, the confidence of the gentlemen of his state.

NEW-ORLEANS AGRICULTURAL Ware house, comprising a large assortment of Plows, Harrows, Cultivators, Fanning Mills, Corn Shellers, Corn and Cob Crushers, Straw Cutters, Ox Shovels, Ox Yokes, Grain Threshers, Corn Mills, Axes, Hoes, Shovels, and other Agricultural Implements. Also, Gardening Tools, Guano, Plaster, Rock Salt, &c. Orders will be executed for every article wanted by Planters. In t^h GEO. W. SIZER, cor. of Magazine and Poydras sts.

CHARLESTON HOTEL.—This extensive house is now prepared to offer as good accommodations to gentlemen and ladies as any other in the city. D. MIXER.

"I pronounce the Charleston Hotel, one of the best between New York and New Orleans." SOLON ROBINSON.

ANALYSIS OF SOILS.—Dr. Antisell has removed his laboratory to 35 City-Hall Place, where he continues to carry on analyses of Soils, Manures, and other Agricultural Substances, and to give opinions on same. Fee for analysis of soils, \$5. A class is formed for instruction in chemistry, and mode of conducting analyses. There is a vacancy for a few pupils. Terms \$15 for three months.

PATENT WIRE RAILING, of every variety of Style and Design, from 1/2 in. to 1/2 in. diameter, for Enclosures Farms, Public Grounds, Cemeteries, Cottages, and Gardens, Window Shutters, and Grounds for Private Dwellings, Lunatic Asylums, Prisons, Summer Houses, Arbors, Arches, and Verandahs, Gratings for Sky Lights, Guards for Steamboats, &c. Manufactured by T. Lyman & Co., 4 Albany Block, Boston, and G. W. Phillips & Co., Grove Street, New Haven, Ct., sole patentees for the New-England States. For further particulars, address, post paid, A. B. ALLEN & Co., 189 and 191 Water st. N. Y.

NEW-OXFORDSHIRE LONG-WOOLLED Bucks for sale.—The subscriber has about 40 Long-wooled Bucks, which he will dispose of at any time when called for. This flock, which has been bred from some of the best ever imported, is so well known that they need no further description than to say that they continue to yield their very heavy fleeces— from 9 to 16 lbs. of washed wool; and when full fattened, will weigh upwards of 300 lbs. alive. This breed of sheep is remarkably healthy, very prolific, and make a profitable cross with the various breeds of this country, doubling their weight of wool and mutton. The price will be from \$50 to \$75 for Bucks, and \$35 to \$20 for Ewes, according to their quality. Gentlemen are invited to call and see for themselves, or communicate by mail. jy 4t CLAYTON B. REYBOLD, Delaware City, Del.

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One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Ronkonkoma Pond, or Lake, one of the most beautiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

Persons settling here, have all the advantages of growth and rise of property of a new country, with all the privileges of an old-settled country, as by a ride of three to five miles, churches and schools of various denominations may be found, of more than 100 years' standing. Title perfect, and will be sold on advantageous terms, and at a low price.

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Miner's American Bee Keeper's Manual, price \$1, cloth—75 cents in paper covers; being a Practical Treatise on the History and Domestic Economy of the Honey Bee, embracing a full illustration of the whole subject, with the most approved methods of managing this insect, through every branch of its culture, the result of many years' experience. Illustrated with three hundred accurate figures.

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“ “ “ 400 “	\$110.
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“ “ “ 150 “	\$70.
“ “ “ 200 “	\$80.
“ “ “ 300 “	\$105.

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GREAT SALE OF SHORTHORN CATTLE. The subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Dutchess Co., New York, about 35 head of Shorthorn cattle, including cows, heifers, and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 20 quarts per day and made 15 lbs. 3 oz. of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red and white, and a rich strawberry run—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull *Exeter*, which will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Shorthorns—was calved in June 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238,)—out of Jessamine, by Commodore (3,432)—Flora, by Belvedere, (1,706)—Jessey, by Belvedere, (1,706),—Cherry by Waterloo, (2,816), &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first-rate judge of shorthorn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow-red, which is a bright-red with a fine golden or saffron undertinge, arising from a rich yellow skin. He is the *only bull* of this *peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows will fetch a high price the moment they are dropped.

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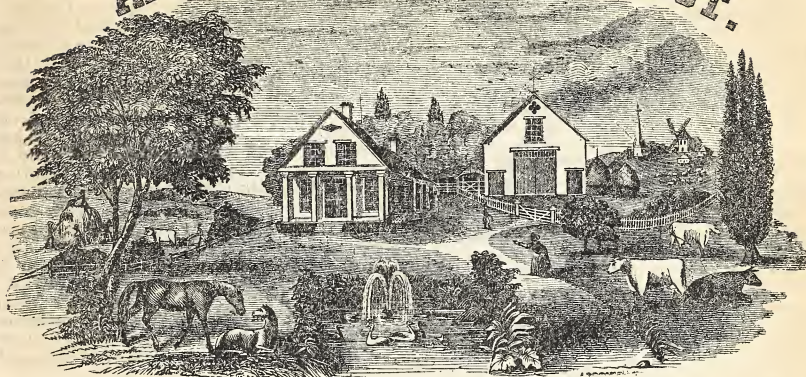
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. IX. NEW YORK, SEPTEMBER, 1850. NO. IX.

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CONNECTICUT FARMING—REVERSE OF THE PICTURE.

It will be recollected that we published some letters of Mr. Robinson, last fall, which gave slight offence, because, as was alledged, he selected an extreme case or two of negligence and bad farming to be found, and exposed them to the public gaze. We are certain his object was only to awaken a spirit of improvement among the cultivators of his native state, and not to ridicule, nor find fault with things as he found them. We now give another letter of his, in which a brighter shade is given to the picture.—Eds.

Having been pent up in the close atmosphere of the city for some weeks, after my return from my southern tour, I felt as though the sight of something green, besides the scanty grass in the park, or doubtful hue of the trees, would be soothing to a spirit that loves the green hills and sweet air of the country. I started off in pursuit of such a scene. It so chanced I took the New-Haven Railroad. As we passed Norwalk, I thought of the farm of Mr. Stevens, of which you published a notice in April, and would gladly have called to look at his improvements, if I had known he was at home. However, I concluded to defer that, and rolled onward, noting that even Connecticut farmers are becoming sensible that the rocky hills and gravelly knolls may be made more productive, by a more judicious system of cultivation.

As we approached the busy, bustling, beautiful little city of Bridgeport, I discovered about a mile off to the left, a singular-looking structure which a friend informed me was a *Connecticut farm house*, as it was the residence of Farmer Barnum. I determined at once to make him a visit. No doubt many of your readers, as they have caught a glimpse of this most remarkable edifice, as it shows its head, or rather heads, among the trees upon the plain, back of the town, have wondered what prince, or eastern nabob, had come here to the land of steady habits, and gambrel-roof houses, and erected a palace. If curiosity should prompt him to take a nearer view, he will be still more surprised; for he will see a building unlike any other in America. It is three stories high, besides the basement, in the central part, and crowned with a dome, somewhat like the capitol at Washington, which is supported by lesser ones, and minarets upon the corners of the main building and wings, after the style of some oriental palace. The entire front is 120 feet, including at each end, a half circular conservatory, with dome roofs, which give a beautiful finish to the wings. The front portico, with its costly carving, and ornamental finish, has a very inviting look of enjoyment in a warm day, while that in the rear, (enclosed with glass,) is equally so, in a cool morning; for there, the invalid, shielded from the wind, may take a long morning walk in the bright sun. Strangers sometimes think the appearance of the house fantastic, and perhaps conclude the owner is some vain fellow, who has inherited a fortune to spend, and is in a fair way of doing the job rapidly. Besides the house, he sees a most costly con-

servatory, or grapery, and gardener's cottage, carriage house, stables, and barn, with little temples, summer houses, and other necessary structures, all wearing their domes and minarets in perfect keeping with the principal building, and showing an apparent expenditure of money beyond the means of ordinary mortals. How mistaken in all his conclusions. The proprietor, is no other prince nor nabob than the somewhat celebrated P. T. Barnum, owner of the New-York and Philadelphia Museums; who has made his wealth by his own exertions, and is freely spending it in beautifying and improving the soil of his native land. Instead of being unapproachable, he and his family appear just as all well-cultivated farmers' families should appear; affluent, without that ostentation that makes themselves and guests uncomfortable. Mrs. B. is a woman "who careth after her household," seeing with her own eyes that all things are in order; even the kitchen, the most important room in every house, is so kept that a look into it will not sicken one of the meals prepared there.

It is needless to describe the interior of this "Connecticut farm house," only to say it is planned with attention to comfort and convenience; and though richly furnished, not too much so for such a mansion. It has several things that some others should have, one of which is, a well-selected library. In this, we noticed complete sets of the old English divines, the classic, English, French and German histories, and all the best works on agriculture. The walls of the rooms and passages are ornamented with choice pictures and engravings. Bath rooms with hot and cold water, and shower baths serve to purify the body, and that tends to purify the mind. Bedrooms, as they always should be, spacious and airy. There is a spacious dining room, and rich table furniture; yet, the style of living and every-day habits of the family are such as might be expected where good sense directs. An iron fence that cost \$5,000, besides the stone foundation, adorns the front of the lawn. Outside of this, a row of maples, an American tree, that is very ornamental. A grassy lawn and carriage road, with a profusion of shrubbery and flowers, and newly-planted forest trees, beautify the grounds. Further back, is a handsome young orchard of choice fruit. Behind the barn and stables, runs a little brook that feeds the fish pond, which, with its little island, forms an ornamental feature in the rear of the house. Beyond this, a field which bore a "premium crop of Indian corn last year." Grazing upon rich pastures, are a couple of superior cows, that furnish the family with plenty of rich milk, cream, and butter, *home made*; and in the pens, not in front of the house, are some good pigs and porkers, furnished with a provision of swamp muck and trash for making manure, indicating the knowledge of the proprietor, that nothing but manure is wanted to renovate the worn-out lands of Connecticut. This lot contains seventeen acres, for which he paid \$12,000, and rumor says, upon the house, grounds, and furnishing, \$200,000

have been expended. In this case, as in all others, improvement has increased the price of all the surrounding land, to double or treble the former prices. Mr. B. has lately bought an old field, which, according to the old order of Yankee farming, has lain untouched by the plow for a quarter of a century. He paid \$150 an acre; but it is doubtful whether the owner ever made interest on a fourth of that sum from its poor pasturage. Through the lot runs a small stream, and of course a row of alders along its bank. The first step was to clear off all the brush and roots, and dig a draining ditch, take out a bed of muck about three feet deep, and cover over the surface of the whole field, until it was as black as charcoal, to lay and freeze and thaw till spring, then receive a good coat of ashes, and be plowed under. Another portion formed a great compost heap with stable manure, and occasionally the carcass of a dead horse, or other domestic animal, which many farmers throw away, worthless. In the effort to plow deep, he discovered a valuable bed of stone. Another field, lying in the same condition of eternal pasture, he bought for \$60 dollars an acre, and has purchased a few acres of swamp near it, to get muck for manure. Another small lot he is underdraining. He is doing these things not so much with a view to profit, as to gratify his taste for making improvement, and also to show his neighbors that there is no need of their old barren fields, lying almost worthless all over the country, for they can be easily renovated and made as fertile as the virgin lands of the west. He has made a small trial of guano, which, if it succeeds well, will enable him to renovate the old fields very cheaply. I hope his success may be commensurate with his public spirit and desire to create a disposition among the people to improve their land, by a better and more enlightened system of agriculture.

It is a pity the same spirit is not more universal. Notwithstanding the great improvements that have taken place in this state, within a few years, there is room for greater ones.

SOLON ROBINSON.

LIVE POSTS—WIRE FENCES, ETC.

UNDER the caption of "wire fences," in the June number of the *Agriculturist*, I see a statement that a wire fence has been built for \$200 per mile, sufficient to turn cattle, horses, &c. Cheap as this may appear, I think I can offer a plan of constructing a fence sufficient to turn cattle, at a far less cost, say \$10 or \$12 per mile, which, if it prove practicable, would be some saving.

The plan I propose, is, to procure about eight quarts of long-leaved pine seed, and sow them on a breadth of land where the fence is wanted, not exceeding two feet in width. There is no danger of getting them too thick, the thicker the better—say as thick as you would sow buckwheat, I should think might answer. They will require the cattle and other stock to be kept from them for about four years, but will need neither cultivation nor attention of any kind, except to destroy the worms which will be likely to attack some of them, in the month of June, in

the second, third and fourth years, after which they will be out of danger of worms and stock; and, by the sixth or seventh years, cattle could not force their way through them, and if they come thick enough, there will be but little danger to be apprehended from animals of the smaller kind.

I have a pine thicket now growing, not sown, however, with design of fence, in many places of which a sucking pig of a few weeks old could not pass between them, and I infer, if the pines will grow so close without arrangement, they would do the same with. The above is a theory based upon observation. You can take it for what it is worth; but I intend to put it into practice the coming winter, to some extent. Should it prove practicable to make a fence of this description, large farms could be enclosed with it without much loss, especially when land is cheap, and a great deal of waste land, or commons might be enclosed.

In regard to live posts for wire fence, it occurs to me that pines would be better adapted than any other kind of wood, as they would grow large enough in a few years; and I think the turpentine would prevent corrosion of the wire. Should this prove correct, I think there could be nothing more suitable; for they are rather more a fertiliser than exhauster, of poor land, at least, and I think they would add to the beauty of the farm. Fancy to yourself a farm handsomely laid off with rows of evergreens at intervals of 40 or 50 feet in a row. Do you not think it would be an improvement on the zig-zag fence of the present day? As for the ground occupied, wheat, I think, would grow up to the very roots of the tree. I have just harvested wheat five feet high, within the distance of a common cart track from a row of pines, in places thick enough for fence themselves. Corn is growing on the opposite side, and looks quite healthy within a few feet of the trees. This row is about one eighth of a mile in length, sowed with the design of seeding an old field, which the introduction of guano has saved the trouble. I now intend to thin it out on the plan above proposed, and insert wires with a handsaw, and hope to make a formidable fence. Z***

Delaware.

TO RESTORE PEAR TREES.

The *doynne* or *vergouleuse* pear is worthless here. The fruit commences cracking when a little more than half grown, becomes woody, and in some years very few or none ripen. Our soil appears to need some compound to bring the fruit to maturity. I had two seedling trees more than thirty years old, which never produced any fruit. About seven or eight years ago, as an experiment to make them bear, I cut on three sides of each of their trunks, with an axe, about an inch and a half deep. This had the desired effect—they have produced fruit more or less ever since.

Pear trees may be set out near buildings, so that their roots may extend under them, where the soils generally light and moist, and contains more or less saltpetre. HAWLEY B. ROGERS.

Huntington, L. I., May, 1850.

AGRICULTURAL GEOLOGY.—No. 4.

In adverting to clay-slate rock and soils, at the close of our last number, (p. 172,) we approach a series of minerals, which, for character and extent, differ exceedingly on this continent, from any of the like in Europe; and, as when treating of this series, we touch upon those which underlie the greater part of this state, and which have, on that account, received the name of the "New-York system" of rocks, the necessity of dealing with it somewhat fully is imposed upon us.

In western Europe, the rocks which lie above the mica slate, and below the old red sandstone, are comparatively well marked, and easily recognised in their general appearance. They consist of a series of slates and flag stones, sometimes dark colored and soft, and occasionally splitting irregularly, sometimes affording beautifully thin and perfect slates, of great superficial dimensions. Such are the slates from Bangor, in Wales, and Cumberland, in England. These are generally the lowest beds, those higher up losing that useful property called cleavage. The beds lying over those which furnish these slates, generally yield good flag stones. Above these, lie beds of stone mostly of a flinty and silicious character, which still have the slaty cleavage, and yield good corn-mill and grindstones. This series of rocks is the first which shows any trace of life having existed at the time it was formed. The traces are the remains of stalks of corals, a few scales of fish, and some thin fibres of seaweed of simple form. They are distinguished from the rock systems previously described, in not presenting well-marked evidences of having been at one time melted, but rather show that they constituted the bottom of an ocean of great depth, in which the clay, mud, and sand had ample time to settle down evenly in alternate layers, and going on for a long period of time, and occupying a great extent of sea bottom, and shell fish, corals, or other animals dying during the period, would become imbedded in the mass. Thus, kept in some degree from the decomposing action of the air and water, they would be handed down to us as the remains of the inhabitants of a world in times long gone by.

After the lowest beds were deposited, and before the uppermost or last were settled down, volcanic action and upheaval occurred from below, bending, cracking, and elevating the oldest beds at various angles. Hence, it is, that when the whole was finally upraised from the ocean deep, these upheavals appeared as very high and rugged hills with sharp peaks and shoulders, the characteristics of a slate country. The bending and cracking were produced by melted greenstone and trap, endeavoring to find a vent upwards, and forcing all above before it. It cooled down, however, before passing through the thickness of slate, and hence forms the walls or dykes, or trap, or greenstone met with in slate. The greenstone brought up metallic, copper and tin, in great abundance, and deposited them in the sides of the dykes;

the oldest beds of slate being those rocks where these two metals are found most abundant. The upper beds of clay slate have not these metals, and but few dykes of greenstone; but in their place, beds of granular, white limestone occur, with veins of galena, or lead ore. The topmost beds of the series contain no metals, and consist of sandstone and shaly slate, with beds of coralline and shelly limestone of a dark color. Occasionally, beds of pebbles cemented by paste, into a rock, and termed conglomerate, are met with, until at last we come to these beds of dark-red sandstone, of which our city churches are built, and which is known as the old red sandstone. Here terminates the slate rocks. They are not equally well exhibited in every country. Thus the lowest or metallic beds are better developed in England than here, the middle series in central Europe, while the topmost series, or those which have no metal, are best seen in those states, being close to the sandstone beds, it partakes much of that character, and has lost, to some extent, the slaty cleavage. Such rocks were termed *grauwacke*, in Europe, but from their extent and importance in this state, they have been called the New-York system of rocks. They occupy almost the whole centre and west of the state, and are the most fertile spots known. The salines, the water limes, and the gypsum beds belong to this class of rocks, and they stretch from Lake Ontario to the Pennsylvania border, where they dip down south under the old red sandstone of the border counties. The various beds described have received names from the localities where the best-marked specimens were found. Thus Potsdam sandstone, Trenton limestone, Utica slate, Hudson-River slate, Medina sandstone, Niagara group, Onondaga salt group, Portage and Chemung slates are familiar names.

The inclination of the New-York system of rocks is very slight in the central counties, lying at an angle sloping south eight or ten degrees; hence there is but little inequality of the ground, no mountain chains, and the land favorably disposed for tillage. It is different in the east of this state, as along the Hudson River, where the earlier deposited beds of slate lie on primary rocks; their upheavals are abundant, and the land too stony and rugged for profitable cultivation. Again, along the Pennsylvania line, the newest beds are found joining the sandstone, and these, also, have been upraised to a high angle, and produce the picturesque scenery along the Erie Railroad. The soil of this extensive tract of country is as varied as the rock itself. Sometimes it is altogether derived from the slate rock, and then its character is a stiff clay; but this only occurs in a few places, and its general composition varies from a loose sand to a marly clay. How comes this difference of soil?

We must recollect that after the rocks were deposited and consolidated, they lay underneath the deep water of the sea, with a strong current flowing southerly, tending a little eastward. If any soil ever formed on the surface of these rocks, it was swept away by the force of the

current, and carried south, to be spread over other rocks, and the sand and gravel which the current carried along, were spread evenly in some places, and in sand or gravel hills in other places, over the whole slaty bottom. Since then, it has been silently raised up to become dry land, carrying its sandy bottom up along with it; hence it is that so much of the slate district is destitute of fine clay, and the soil bears no relation to the rock below, because not derived from it, but from some rock perhaps 50 or 100 miles more northward. The clays of the Highlands are found in Long Island, and the water lime and gypsum rocks, forms the transported soil of part of Cayuga, Seneca, and Tompkins counties. In some places, the slate rock has decomposed readily, and mixing with the transported sands which overlies the rock, forms a loamy mixture of great fertility. Most of the soil of Seneca county is of this character.

FARMING OF ROBERT BAKEWELL.

THE celebrated Mr. Robert Bakewell, of Dishly, Leicestershire, and the founder of the New-Leicestershire sheep, used to tell an anecdote with exceeding high glee, of a farmer, not only of the olden school, but of the golden times.

This farmer, who owned and occupied one thousand acres of land, had three daughters. When his eldest daughter married, he gave her one quarter of his land for her portion, but no money; and he found by a little more speed, and a little better management, the produce of his farm did not decrease. When his second daughter married, he gave her one third of the remaining land, for her portion, but no money. He then set to work, and began to grub up his furze and fern, and plow up what he called his poor, dry, furze land, even when the furze covered, in some closes, nearly half the land. After giving half his land away to two of his daughters, to his great surprise, he found that the produce increased—he made more money, because his new broken-up furze land, brought excessive crops, and at the same time, he farmed the whole of his land better; for he employed three times more laborers upon it; he rose two hours sooner in the morning; had no more dead fallows once in three years, instead of which he got two green crops in one year, and ate them upon the land. A garden never requires a dead fallow. But the great advantage was, that he got the same money to manage five hundred acres as he had to manage the one thousand acres. Therefore, he laid out double the money upon the land. When his third and last daughter married, he gave her two hundred and fifty acres, or half which remained, for her portion, and no money. He then found that he had the same money to farm one quarter of the land, as he had at first, to farm the whole.

He, (Mr. Bakewell,) began to ask himself a few questions, and set his wits to work how he was to make as much of 250 acres, as he had done of one thousand acres. He then paid off his bailiff, who weighed twenty stones, rose with the lark, in the long days, and went to bed with the lamb—he got as much more work done

for his money—he made his servants, laborers, and horses move faster—broke them from their, snail's pace—and found that the eye of the master quickened the pace of the servant. He saw the beginning and ending of everything; and to his servants and laborers, instead of saying, "Go and do it," he said to them, "Let us go, my boys, and do it." Between come and go, he found a great difference. He grubbed up the whole of his furze and ferns, and then plowed the whole of his poor grass land up, and converted a great deal of corn into meat, for sake of the manure, and he preserved his black water (the essence of manure); cut his hedges down, which had not been plashed for forty or fifty years; straightened his zig fences, cut his water courses straight, and gained a deal of land by doing so; made dams and sluices, and irrigated all the land he could; he grubbed up many of his hedges and borders, covered with bushes, in some places from ten to fourteen yards in width, some more in his small closes, some not wider than streets; and threw three, four, five, and six closes into one. He found out that, instead of growing white-thorn hedges, and haws to feed foreign birds in the winter, he could grow food for man, instead of migratory birds. After all his improvements, he grew more, and made more of two hundred and fifty acres, than he did from one thousand; at the same time, he found out that half of England, at that time, was not cultivated, for want of means to cultivate it with. "I let him rams, and sold him long-horned bulls," said Mr. Bakewell, "and told him the real value of labor, both in doors and out, and what ought to be done with a certain number of men, oxen, and horses, within a given time. I taught him to sow less, and plow better—that there were limits and measures in all things—and that the husbandman ought to be stronger than the farm. I told him how to make hot land colder, and cold land hotter, light land stiffer, and stiff land lighter. I soon caused him to shake off all his old, deep-rooted prejudices, and I grafted new ones in their places. I told him not to breed inferior cattle, sheep, nor horses, but the best of each kind, for the best consumed no more than the worst. My friend became a new man in his old age, and died rich."—*Agricultural Gazette*.

PRESERVATION OF PUMPKINS through the greater part of the winter, if sound and well ripened, is easily attained, by stowing them in a mow of dry hay or straw, or placing on a barn floor and covering with any light forage. A dry cellar will frequently keep them sound; but these are usually too moist for this purpose. They ought occasionally to be looked after, and any showing evidence of incipient decay, should be immediately used. All the partially ripe, small, and imperfect should be fed soon after taking from the field.

BUGS ON VINES.—Sprinkle them with urine. If too strong, it will kill the vines as well as the bugs. A moderate dose, diluted with water, will drive off the bugs and make the vines grow rapidly.

ROADS IN LOWER VIRGINIA.

No improvement in the appearance of a country has more effect upon the mind of a traveller than good roads. Not having yet travelled all over the United States, I cannot speak of my own certain knowledge, but I believe that no section, whether east, west, north, or south, can beat Lower Virginia in roads. As a general rule, I think it may be set down as an incontrovertible fact, that they are the most neglected part of creation. Worn down by long use and washing rains into channels, it has become such a task to change the shape of them from concave to convex, that it is never attempted; and what little work is done upon them seems to have called forth all the native energies of negro ingenuity to make bad worse.

The most common method of stopping a gully or filling a mud hole is, to put a little green pine brush in it, which has a durability fully equal to fresh fish in August. The dirt from the ditches upon each side, instead of being rounded up in the middle, to shed off the water, is almost invariably piled along the edge of the ditch, so that the water is dammed in the travelled track. As far as a plow and road scraper are concerned, upon the public highway, who ever saw such a wonder in that part of the state? "I pause for a reply.

A TRAVELLER.

THE GREYHOUND.

THE modern smooth-haired greyhound is a very elegant dog; remarkable for its extreme velocity, in which it is, we believe, superior to the rough-haired dogs of the olden time, though not to some of the modern rough greyhounds, in which a cross of the old rough breed, or Scottish deerhound prevails. No greyhounds used for the hare, equal in speed and endurance those of our island; and none, so improved of late years is the breed, equal them in symmetry; every action is light, easy, and elegant, yet firm and vigorous.

The greyhound is highly sensitive, and very good tempered; like the Irish wolf dog, it is peaceable and affectionate, and fierce only in the chase of its quarry, or when excited to combat. On one occasion only, have we ever seen a greyhound fight with another dog; and in that instance, the animal, a roughish brindle dog, was set upon a large dog of a mongrel mastiff breed, and forced to self-defence. Short, indeed, was the combat; in a few seconds, the aggressor sunk severely torn, and was taken away. Slim as those dogs are, their muscular powers are very great; like the race horse, they are compact, of iron muscle, and ivory bone, with no superfluous fat nor loose cellular tissue, and are consequently deceptive to the eye, which is, in general, accustomed to see strength conjoined with massiveness. Yet we have but to consider the chest, loins, and limbs of a greyhound, and regard the "tori" of the arms and thighs, to feel assured of the possession of great power. The smooth greyhound, or glaze hound of the older writers, follows exclusively by the eye—whereas all the old, rough breeds, could recover the track

of the game by the powers of smell; but in the modern dog, every quality is sacrificed to fleetness, and certainly for sudden and violent bursts of exertion the present breed has never been equalled.

Many trials for ascertaining the speed of the greyhound have been undertaken, and Daniel's opinion seems to be on the whole, correct, viz., that on flat ground, a first-rate race horse would be superior to the greyhound; but, that in a hilly country, the greyhound would have the advantage. Much, however, in the latter case would depend upon the dog being habituated to hilly districts; for a greyhound, accustomed only to flat plains, though swifter on them than a Yorkshire greyhound, would yield to the latter in a hilly country. The hare and the greyhound seem to be well matched; the swiftness of both animals is astonishing, and a well-contested run is an animating sight. Daniel records the circumstance of a brace of greyhounds, in Lincolnshire, running a hare from her seat to where she was killed, a distance measuring in a straight line, upwards of four miles, in twelve minutes; but as there were a great many turns during the course, the actual distance was considerably more. The hare ran herself to death before the greyhounds touched her.—*Knight's History of the Dog.*

IS IT POSSIBLE THAT THE EARTH CAN PRODUCE ANY VEGETABLE SPONTANEOUSLY?

THIS is a question often suggested to the mind of cultivators from the fact that, under certain circumstances, new growths spring up almost miraculously. For instance, in cutting down a primeval forest and burning the timber, the "fire weed" grows at once, far remote from any other. An old field that has grown nothing but broom sedge for many years, on being dressed with lime, produces white clover, where it never grew before since the forest trees were cleared off. In dense forests of long-leaved pines, if that timber is cut off, it is succeeded by oak and hickory; but if that growth is then cut off, neither long-leaved pines nor oaks follow, but another kind of pine called "loblolly." But cultivate the land and "turn it out," and then comes the "old-field pine."

Grasses and weeds, unlike any in the vicinity, have often been known to grow from earth thrown out of ditches and wells.

Fire is often produced spontaneously. Now is it any more remarkable that the same "Creative Power" should produce vegetation spontaneously, notwithstanding the assertions of science that no plant can ever grow except from a seed of the same sort? May not all the elements, necessary to form the germ of a plant, be brought together by the operation of nature and thus *begin to grow* and become capable of reproduction by seed? To deny this, is to say that the same Power that first bade the plants grow, is no longer powerful nor able to produce anything that has not had a previous existence and produced seed and that which has laid dormant for unknown ages, without decay; and yet, it is equally as miraculous that such seeds

should have retained its vegetating power as it is that nature is able to produce a new plant.

It is believed by some persons, in this age of wonders, that even life can be produced artificially. True, of a very low grade, but still possessing life. It certainly is a subject not unworthy of scientific investigation, to inquire whether vegetation that sometimes appears to come upon the earth mysteriously, has not sprung from seed of its kind that has laid dormant for ages unknown, or whether the Power that created all things has not again been brought into exercise to beautify and replenish the earth, and thereby add to the comfort and happiness of man, if his perverse nature would allow him to see what a happy home this earth might be, if all were as earnestly disposed to cultivate the fruits of love and neighborly kindness as they are to plant thorns and thistles.

DELAWARE.

Our correspondent above, seems to revive some of the conceits of the dark ages. The effort was made by the ingenious author of "Vestiges of Creation," but without success. The doctrine of *mutation*, or the change of one specific plant to another of a totally different species, as of wheat to chess, is exploded by all intelligent and careful minds. The greater absurdity of spontaneous creation, must of course follow. In this, no considerate mind for a moment calls in question the *omnipotence* of Deity; but while fully conceding this, we say conclusively, that Deity has *fixed*, and to a certain extent *known laws*, by which he governs the world, and this affair of spontaneous creation is not one of them.

YANKEE FARMING.—No. 11.

The Sausage Stuffer and Cutter.—In order that my readers may better understand what follows, I think it best to inform them it was only last spring, for the first time since A-gok-ne-quaw was settled, that any of our merchants, or rather storekeepers, as we call them, had sufficient enterprise, or could muster the courage to add a few improved agricultural implements to their otherwise excellent assortments of well selected seasonal goods. These were at once so deservedly appreciated by our best farmers, and sold so well, that it encouraged the merchants to keep on; and among other things procured last fall, was a stock of those highly useful little machines, sausage-meat cutters and sausage stuffers.

Happening in at one of the village stores, early in December, to lay in her winter stock of groceries, my wife was shown the above machines. She thought so highly of their labor-saving capabilities, that, notwithstanding the seemingly high price asked, she determined on purchasing them; for the cutting up of a considerable quantity of sausage meat every winter, with no other implement to perform the operation, than the common chopping knife, and then the only means to stuff it, a short round stick or the bare finger, renders sausage making one of the most disagreeable and laborious of household duties.

Well, shortly after the purchase of these little machines, my fresh-killed pork being ready, my wife and I sat down one fine frosty evening to make sausages. To give them their just dues, both cutter and stuffer worked to perfection, and enabled us to accomplish more in one hour, than we could do in a whole day without them. Just as we were in the midst of our operations, who should pop in quite unexpectedly upon us, for an evening visit, but our good neighbors, Uncle Sim, Aunt Nabby, the fair Molly, and both of the boys. Their curiosity was instantly excited by the array of things before them, and in order to gratify it, they solicited us to continue our employment. As the fine, even-cut meat rolled out of the box, and sausage link after link was drawn from the end of the stuffer, Uncle Sim cocked his eye with utter astonishment; Aunt Nabby drew in a long breath, and closely pressed her lean, sinewy mouth; Molly's eyes sparkled with delight at the facility of our operations, and the thought of what a light task she and her mother, too, might hope to have of it hereafter; while the boys stood by and chuckled somewhat greedily with the idea that sausages and gravy would henceforth be more plenty on their father's table.

"Wal, Miss Teltrue," said Uncle Sim, at length breaking the silence and smacking his lips, "now du say, what did them 'ere sassenger machines cost?" "The cutter," said my wife, "is of the best kind, Mr. Doolittle, and I paid ten dollars for it; though I could have got one with wooden pins instead of iron, for half the money. But I preferred the best made, as unquestionably the cheapest in the end. The stuffers only differed half a dollar in the price, so I again chose the highest, and paid five dollars." "Ten dollars!" said Uncle Sim, with great surprise, and then raising himself up in his chair, "and five dollars! Why, how you du talk, Miss Teltrue; all that makes fifteen! and fifteen dollars is mor'n our whole fatten' shoats is all worth, and the swill tubs into the bargain. Who ever heered on sich a sum for sich little gimcracks? A body would think now-a-days a storekeeper had'n't no conscience to ask so much for nothin'. But may be 'tis a patent right. Wal, a patent right, and a pedlar, and a lawyer, ought to be put all into one bag, and shook up together. What a purty mess they would make, heh? 'Birds of a feather all flock together,' the rampscullions. Wal, I guess they think sassenger meat when its chopped fine enough, is the rael Californy dust, and that the links is all goold bars, fresh melted down, and ready for shippin', this side up with care, the gonies. I tell you 'tis a downright, clean out and out extortion and no mistake, and I don't care who hears Simeon Doolittle say it, I snore." Here he brought his clinched fist emphatically down upon his knee, and I must confess I had never seen him more excited in a small matter. But the idea of touching his purse, generally, was apt to touch his sensibilities; though Uncle Sim could hardly be called a close man in the strict meaning of the term; it was rather a narrow-minded dislike on his part, at first, to pay for an improved im-

plement, however much it might facilitate labor or cheapen production.

Mr. Doolittle's illiberal tirade upon what my wife thought did not much concern him, roused her spunk a little, and like most women under similar circumstances, she was ready with a reply; so she answered pleasantly, at the same time rather positively, that considering the superior manner in which the machines were made, she did not think the price so very dear; nor did she believe that either the manufacturer or trader made large profits on them; and if they did, it was of small consequence to her; she never considered such matters in her purchases; the only question to her mind was, "Is this a profitable investment for me?" Decide this in the affirmative, and she bought it unhesitatingly. Now, it formerly took my husband and self about a fortnight, without these machines, to accomplish what we have done in a single day with them; so, reckoning our time at fair wages, they are already paid for. Besides, it is so much less irksome to work with them, and they turn out the sausages so much more perfectly that I am offered half a cent a pound more for them than if made by hand; and recollect, Mr. Doolittle, this is only one season's performance. Now they will last several years, so that I reckon they will earn at least, five times their cost before we wear them out; thus, after all I think you will allow that I have made a good investment.

"Wal, may be as you say, Miss Teltrue," replied Uncle Sim, quite subdued in his tone, and apparently mollified in his feelings, "but you know the old sayin', 'stick to your parish church though your parson is a blockhead,' which I spose is as much as meanin', 'du as your fathers have done afore you, for changes isn't agreeable; howsomdever, we du change.'" "Yes," replied I, "witness your well-drained meadow last fall."* "Oh, Sargeant, that's nothin'." But he was apparently highly pleased with my allusion, and proceeded. "Wal, we du change sometimes, for good reason and profit; and if pork was on'y worth a shillin' a pound now, as it used to be, sasserger machines might do; but when its hard sellin' at sixpence, or at most sevenpence, it's quite another affair, as the man says in the spellin' book, when he found it was his bull gored his neighbor's ox, instead of his neighbor's bull gorin' hiszen. Wal, arter all, perhaps I'm wrong in my notions; what's done cheap is sometimes the dearest; the penny is well spent that saves ten; and 'tis more trouble to du ill, than to du well."

How many more proverbs Uncle Sim would have quoted, if suffered to go on, it is impossible for me to say, for his head seemed to be full of them, ready to be brought out upon all occasions; but Aunt Nabby had kept her tongue with great impatience till this moment, when seeing her husband becoming a little penitent, and somewhat more diffident in the dogmatic opinions, just expressed, she commenced with a volubility which I must confess I had rarely heard even her equal.

"Sartin true, Mr. Doolittle; but bull meat isn't pig meat, no, nor ox meat nother; though it makes good mince, it ain't no account in sassengers. Wal, won't this 'ere cutter do the mince meat as slick as the sassenger? And you be purty fond o' mince pies as well as sassengers, and the boys don't like 'em scace, I guess nother," she added, coaxingly playing her hand on his shoulder; "and fifteen dollars! Oh, my! It's a purty big sum that's sartin; but don't forget the little tiny pig that could'n't keep up to the tothers when he was a suckin', and pined away, and got so weak he could'n't stand, he did. And would'n't he a died if I and Molly had'n't a saved him? Yes, sir-ee. Now answer me that, Mr. Doolittle, as you are a livin' man. And if we had'n't a saved him, and brought him up by hand, on sour buttermilk and biled tater parins, and house slops, and sich kind o' truck that aint nothin' except to waste, and would a bin thrown away, prehaps." But Aunt Nabby was too economical a housewife to do this in any event; she only wanted an argument to help out her case. "Wal, din't I and Molly do all this, I say, and more tu? And aint the little pig the biggest and fattest shoat now, this very day, of any in the pen? And won't the storekeeper give more for him than the sassenger cutter and stuffer will all come tu, and a nice new hat for yourself into the bargain, Mr. Doolittle, to go to sister Suzy's weddin', that is to be next new-year's day a comin'? And ef we on'y had the machines, I and Molly could cut all the meat and stuff the sassengers in a jiffin, and have plenty o' time to make our bran new gowns for the weddin', tu, without the mantermaker's help, which will also be a considerable savin'; and Miss Teltrue, as you heered her, says the sassengers look so much nicer, she is offered half a cent extra a pound for 'em. Wal, now let's cal'late." And so Aunt Nabby commenced upon her fingers. "Wal, there's the big shoat—I mean the tiny pig that was—and a week's wages of the mantermaker saved, and the half cent more on the sassengers"—

"Jest you whist a bit now, mammy, won't you." said Uncle Sim, half coaxing and half peevishly, "and let somebody else put in a word, as the big cart said to the little creaking wagon; I never seed sich a tongue as youm in all my born days; 'but as the bell is so is the clapper,' and ef you don't ding dong it fast enuf for your side of the argument, then I ain't no knowledge o' a controversy. Wal, I ain't goin to dispute your callation, nor Miss Teltrue's nother; I've cyphered tu fur in 'rethmetic for all that; and may be as you say, mammy, 'tis a matter o' economy to get the sassenger machines; but then, there is sich a thing as goin' tu fast; and there's so many shickle shackles about the country that don't prove all they've bin cracked up to be by a long chalk, that I've got kind a skeary—"Hail Columby!" Howsomdever, as the Dutchman said, 'all things is possible; and a pig may larn to whistle, on'y he's a plamed ugly mout for it.'" At this grotesque idea of a pig's whistling, we all burst out laughing, which so tickled Uncle Sim, that he slapped

*See vol. viii., p. 61.

his thigh with delight, and exclaimed in a high pitch, "Wal, mammy, 'what's sace for goose is sace for gander;' so you shall have your way, and Molly tu. Now clear the coast, Sergeant, if you please, a minute, and let me and Bill take a lesson stuffin' sassengers; for I shall be ready with my own fresh pork next week, and I'll send right off to the storekeeper then for all this machinery."

Upon this I immediately gave place to my redoubtable neighbor, who took the sausage stuffer on his lap, while his tall, awkward son, got down on his knees before it, and slipped an intestine on to the point of the stuffer, ready to be stuffed. Uncle Sim now filled the barrel to the brim, for he was determined on a "heavy charge," as he expressed it. He then laid hold of the handle of the crank, while Bill held on the end of the intestine for the purpose of twisting it into links as fast as filled from the stuffer. Uncle Sim now sung out in an authoritative tone, not unlike that of the captain of our military company giving orders on a field day, "Make ready! Take aim! Fier!" Then giving the crank a strong, quick turn, at the same time throwing himself back on his chair the intestine unluckily slipped off the point of the stuffer, by this sudden jirk of Uncle Sim, and the whole charge of several pounds' weight of meat, shot with such force into Bill's face that it choked his mouth, half blinded his eyes, and nearly knocked him flat on the floor.

"Hello-a! Who's killed?" cried uncle Sim, rising with great dismay and anxiety depicted on his countenance, which was responded to by a hearty laugh from all the rest of us present, save the unfortunate Bill, whom we soon relieved from his uncomfortable pelting. Uncle Sim felt highly mortified when he found out the true state of the case; but we soon smoothed the matter over, and the residue of the evening passed pleasantly away. The "lesson," however, I am glad to add, was not without avail, for a better lot of sausages than he and aunt Nabby afterwards turned out, I never saw; and they brought quite as high a price at the village store, as my own.

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SERGEANT TELTRUE.

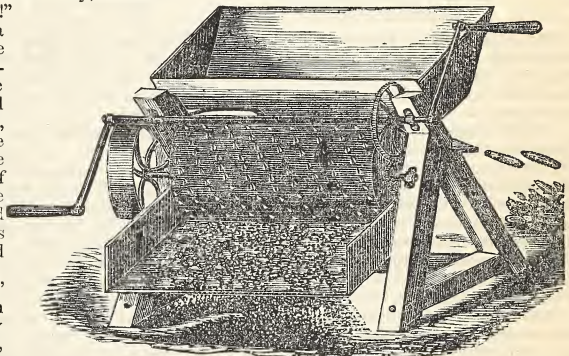
SEEDING TIMOTHY.—If you have not already sown your Timothy, let it be done as early as possible this month, at the rate of twelve quarts of seed to the acre. Be sure that the seed is sound and fresh; and, as a protection to the infant plants, sow, also, at the same time, a peck of buckwheat to each acre of ground. Such meadows as have begun to fail may be increased in their yield of hay, by sowing on them a peck of Timothy seed, with from five to ten bushels of wood ashes, and an equal quantity of lime per acre, afterwards harrowing and rolling it in.

POWERFUL EFFECTS OF GUANO.

A FRIEND has just mentioned an instance of the effects of an overdose of guano, quite disastrous to his crop. He had an obstinate, conceited, Scotch farmer, who persisted in sowing 700 pounds of Peruvian guano per acre, on a field just laid down to oats and grass, when expressly limited to 300 pounds. The result was such a rapid and luxuriant growth, that the oats were all lodged before they were three fourths grown. They were immediately cut for the double purpose of saving the fodder, and allowing the young grass the benefit of sun and air. Unfortunately, the continued wet weather which followed, disconcerted this only hope of preventing a total loss; the oats could not be cured, and their heavy swathes effectually smothered most of the young grass plants.

So much for an overdose of guano, and the disobedience of persons, to the intelligible and peremptory commands of their employers.

SOUTHERN CORNSHELLER.



CORNSHELLER.—FIG. 73.

THIS machine is well adapted for shelling Indian corn, and is suitable for large plantations. It may be worked by one or two men, or by horse power, and shell by manual labor about 300 bushels, and by horse power, about 700 bushels per day. It separates the corn from the cob, both of which are left unbroken.

FARM OF MR. FOUNTAIN.

It is a generally-adopted principle that the prosperity, security, and perpetuation of republican governments depend more upon their agricultural, than any other, and indeed, all other interests blended. If this be so, no honorable means should be withheld that can tend to advance this most important branch of industry.

With no other motive than a desire to encourage a spirit of agricultural emulation which had already manifested itself in some portions of our country, I place at your disposal the statistics of the annual average receipts from the farm of Tyler Fountain, of Peekskill, New York,

as reported by himself. The farm contains 83 acres, 13 of which are wood and pasture:—

35 tons of hay,	\$12.00 per ton,	\$420
425 bushels corn,	62 " bu.	265
450 " oats,	40 " "	180
60 " rye,	75 " "	45
100 bbls. potatoes,	1.50 " bbl.	150
2,200 lbs. pork,	6 " lb.	132
Apples,		125
Profits on cattle sold,		60
" from 5 cows,		150

\$1,527

For hired labor, \$150

Total, \$1,377

He has now three acres of clover which he proposes to cut the last of this month, as suffering it to stand until June, would be impolitic, as it would be too coarse and rank for feed.

A SHERMAN.

Trumbull, Ct., May, 1850.

ETRURIAN WHEAT.

THE superiority of Etrurian wheat is so well established by six years' culture here, that I deem it proper to give some little account of it. Its history, so far as I am acquainted with it, is as follows:—

Six years ago, I was at Washington, and Mr. Ellsworth, then Commissioner of Patents, called my attention to a new variety of wheat from abroad, that he had for distribution. Its appearance was so attractive, that I obtained about one large spoonful of it, that I sent home and had carefully cultivated, from which I have obtained my present supply. Each crop has been equally successful. It has grown entirely free from chess, smut, rust, and weevil. The straw is stiff, and not subject to crinkle. Just previous to ripening, the straw assumes a beautiful purple color, which changes in ripening to a golden yellow. It is the bald variety, with a white or very light-yellow berry, inclosed sufficiently firm by the husk to prevent waste in harvesting, and not so tightly set as to thresh hard. It is very hardy to stand the winter, and grows as well in the wet and low lands, apparently, as on the more elevated and dryer grounds.

For flouring, this wheat is unsurpassed by any variety. It yields more pounds per bushel, measured, than any variety I know of, and the yield of flour is proportionably large. It promises fair to prove the most valuable variety of wheat that we have ever had in this section of the country.

E. CORNELL.

Illica, July, 1850.

The sample sent us of the above wheat, is very fine, and justifies all the writer says of it; but whether it is superior to the white-flint wheat, we do not know. We have hitherto considered that the best kind grown in the United States. As experiments in a small way cost but little, we would advise our friends trying an acre or so of the Etrurian wheat, and should it suit their soil and climate, they could then cultivate it

more extensively. We have it for sale at \$2.50 per bushel.

On account of the fly and other causes, the culture of some of the choicest varieties of wheat has been given up in various localities, and a resort has been had to inferior kinds as more hardy. As these have been cultivated now several years, we presume the fly has partially disappeared. If so, the better kinds of wheat may again be introduced without danger. We would recommend, however, that they be tried sparingly at first.

SUBSTITUTES FOR GRASS.

THIS country is subject to seasons of drouth which nearly destroys the hope of the farmer to sustain his stock upon hay. The grass becomes so parched and dried up in our burning suns, that it cannot revive in time to make a mowing crop after the rain falls. Something, then, to be used as a substitute for hay, becomes of great importance.

As a universal substitute, perhaps millet deserves to be first named, though in some parts of the United States it is likely that other plants can be substituted to better advantage, to supply the loss of the hay-producing grasses. Millet, however, if sown upon dry ground, in June or July, with just rain enough to vegetate it, will mature in about eight weeks, and yield two or three tons of good fodder to the acre. As soon as the farmer finds his hay crop will be cut short by the drouth, he should plow up some most, available piece of land he has, and prepare the surface well with the harrow, and while the ground is as fresh as possible, sow one bushel of seed to the acre, and harrow in. When grown so that the seeds begin to ripen, it should be cut and cured in all respects like hay. As the stalk is coarse, it will be found of great advantage to use a good strawcutter, to cut up the whole before feeding; cattle are then very fond of it, and it is extremely nutritious.

At the same time you sow the millet, having prepared the ground in the same way, sow two bushels, or two and a half to the acre, of Indian corn, and cover it with a light plow or universal cultivator, with turning-share teeth. Be sure to cut this before frost, and bind it immediately with straw bands in small bundles and set it up to dry, in small shocks. If left to dry upon the ground, it is much injured by sun, dew, and rain, which have but little effect upon it if set up; and in that position it cures without any difficulty. This, also, if cut up by a straw-cutter for feed, will be found good economy.

We have grown at least, six tons of good fodder to the acre, from corn sown on the 16th of July. If it is thickly sown, the stalks are so small, that if well cured, cattle eat them greedily, and certainly seem to thrive as well upon such feed as upon the best English hay.

Ruta bagas, or Swedish turnips, in such a season should by no means be neglected, as the tops, if the root does not come fully to perfection, serve as a good substitute for hay, while they remain green in the fall. For the same

porpose, round turnips should be sown more abundantly such a season than any other, as they serve well to save hay, particularly for a flock of sheep, until well into the winter. Above all things, if you have sheep, and are short of hay, do not neglect to sow a broad belt of rye, or wheat. This serves for fall, winter and spring feed, and perhaps is one of the best things you can possibly substitute for hay.

Another good substitute will be found in the somewhat neglected and often despised buckwheat. If cut as soon as some of the earliest seeds are ripe, and well cured, it makes an excellent substitute for hay, and all kinds of stock are very fond of it. The greatest objection to buckwheat, is, that it is an exhausting crop upon the land. But in our opinion, it is better to exhaust the land than it is to exhaust the cattle for want of sufficient nourishment. The greatest objection to buckwheat, as a substitute for hay, is, the difficulty and labor of curing it, but even this is better than curing hides on the fence, in the spring.

In some parts of the south, chess, or cheat, (*bromus*), has been used as a substitute for hay or fodder, but we do not think it half so good a crop as grass and cow-pea vines, which certainly make a most excellent nutritious winter feed for horses, mules, and cattle.

Sheep need but little feeding where the pea vine grows luxuriantly.

TOPPING CORN AND STRIPPING OFF ITS LEAVES.

HAVING seen a wish expressed, at p. 182 in the eighth volume of the *Agriculturist*, that some of the fodder-pulling farmers would carefully try the experiment, and determine whether stripping off the leaves injures the product of the corn, I give the result of my experience on the subject. Although I never have made the experiment by weight nor measure, but by observation, and from topping and pulling the blades, and by cutting it up by the ground, I greatly prefer the former practice, which, if done at the proper time, will not injure the quality nor lessen the quantity of the corn.

A neighbor of mine cut up a part of his crop, by the ground, and I topped and stripped mine. My corn weighed 58 lbs. per bushel, while his weighed only 53 lbs. His corn was equally as ripe as mine, when the topping and cutting were performed, and of the same kind. We both sold for 50 cents per 56 lbs.

I would not have my corn cut up by the ground, if a man would do it for nothing and board himself. First, because it is a lazy man's plan, and a quick way to get down fodder, but double the work to secure it; and then it is worth but little or nothing, after it is secured. It must stand out until it is so weatherbeaten that there is only a little of the inside of the shocks that is fit for fodder.

Secondly, because it is almost impossible to keep the shocks standing upright, as the weight of the corn causes them to lean over, and heavy winds are sure to blow them down.

Thirdly, because in shucking the corn, a great many of the husks break off and are blown away.

Fourthly, because if you have not barn room to house the fodder, it is almost impossible to stack it so that it will keep.

Fifthly, because the corn is not worth one fourth so much as it would have been, if it had been topped, stripped of the husks, and put into the barn in dry weather.

I will now tell you when to top and strip your corn so as not to injure the grain, and how to do it so as to have good fodder, that will not be grinned at by old cows that have got no upper teeth. When the husks of the corn begin to turn of a yellowish color, and loosen up from the ear, and some of the lower blades begin to turn brown and the tassels of the most forward stalks also die, try the grain with your thumb nail, and if no milk shows itself, and the grain appears hard and glazed, you can muster all hands and go to cutting tops and pulling blades, which do in the following manner:—

Give to every third hand a good sharp shoe knife; tell him to cut the tops at the smooth joint just above the ear, and take two rows; throw four rows together flat on the ground; let them lie only one day; that is, tie up every day just before night, in bundles as large as a band made of two of the tops will tie conveniently; set three or four bunches together, around a hill of corn and tie all together by another band around the tassels. The other two hands, (boys suit best,) may pull off the blades from the ear downward, taking a row each, and should keep up with the toppers. They may stick the blades into the rows from the tops; that is, in two rows and then leave two, letting them remain in the hill two days, if the weather is fair, and then tie up in bundles, haul to the barnyard, or place of stacking. Give them two days of sun in the bundle; then stack or mow away. On rainy days, when the fodder is curing, throw the blades into the barn, or stack them up every night; or let your tops stand in the field two or three weeks, until by twisting the stalks, no sap will ooze out; then stack up or put into the barn, as suits you best. J. G. C.

Black-Swamp Farm, Kent Co., Del., 1850.

RESULTS FROM SUBSOIL PLOWING.

MR. JACQUES, of Rahway, New Jersey, speaking of subsoiling says: On $4\frac{1}{2}$ acres of shelly land, he raised 530 bushels of corn, which was a much greater yield than he anticipated, taking the season, soil, and all into account.

The ground was prepared by plowing about four inches deep with a surface plow, which was as deep as the implement could be made to go, owing to the compactness of a shelly subsoil. The subsoil plow followed immediately after, loosening the earth some twelve inches deeper. Had he not made use of the subsoil plow, he thinks his crop would have proved a failure, as the roots could not have penetrated the subsoil, and consequently would have perished by the severe drouth. J. B.

COMPANIONS OF CIVILISATION.—Crows, swallows, henhawks, foxes, rats, cockroaches, bedbugs, and some other bugs.

FATTENING HOGS.

For several years, I have paid some attention to fattening hogs, and find that they will thrive much faster on corn and sweet potatoes, or on peas and sweet potatoes, than they will on any one of these alone. I am well satisfied, also, that they will fatten much faster on boiled and raw food mixed, than they will on either, separate.

The year before last, I turned my hogs into a potato patch, and every evening fed them with corn. Under this treatment, the old hogs soon got very fat; but in the lot there were ten long-legged pigs not a year old, which, at the time I killed the old ones, were in as good order for running races, perhaps, as hogs could be put in for that purpose. I despaired of making them fat enough for bacon; but as I did not wish to keep them another year, I determined to try what effect cooked food would have on them, as I was well convinced that they could not be made fat on raw corn and potatoes; and with this view, I put them into a close pen, with sufficient pine straw in it to keep the hogs from the dirt. I then boiled sweet potatoes until they would mash up freely, into which I stirred corn meal until the whole became mush; and after feeding them on this, until they appeared satisfied, I gave them corn, then raw potatoes, and sometimes turnips, with the tops on. Under this treatment, they fattened faster than I had ever seen hogs before. In two weeks after I put them into the close pen, they were fat enough for any use, fatter than they ever could have been made on corn at that age, or on any one kind of food.

Hogs ought never to be put on a floor of plank, nor rails, if pine straw can be had; because they cannot be made comfortable on a floor of wood. Fill the pen two feet deep with pine straw, and when it becomes foul, put in more straw. In this way, the hogs can be made comfortable, and no part of the manure lost.

A. E. ERNEST.

Macon, Ga., July, 1850.

THE SHEEP BOT.

As this is the season when sheep are worried by the bot fly, farmers should be reminded that now is the time, therefore, to see that they are kept from the sheep, or that "an ounce of prevention is better than a pound of cure."

This bot, (*Cephalemyia ovis*, of Harris), is a fly very much the color of the one which deposits its eggs on the legs of horses, to which it appears to be somewhat allied, but smaller, and of a different shape. I have always seen it stated, when mention is made of this fly, that it deposits eggs in the nose of the sheep, and under the article "bot," in Ree's Cyclopædia, we read that the eggs are doubtless deposited within the inner margin of the nostrils. But as far as I have examined, and I have caught and examined the bots themselves, I am convinced that not the eggs, but the very *live maggots* are deposited in, or on the nose of the sheep. I have caught the fly and instantly forced from it scores of live maggots, about one sixteenth of an inch in length. Under the microscope, they

are seen to be a white grub, or maggot, with more or less black on the head, which extends in two black lines, for about one third its length, along its belly. They are very active when first forced from the fly, and crawl or jump an inch or more in a few seconds of time.

I could wish that some one would institute researches in the matter, and see if they meet with the same results; for if this fly really deposits maggots instead of eggs, it may prove to be something new to science, though it will effect not a whit, their victims, the sheep.

Remedies.—As a preventive, local application of tar to the noses of sheep has been highly recommended. This is undoubtedly good; but I think a better one is, to mix sulphur in small proportion with their salt, which, if given them daily, as it should be, will keep their noses constantly covered with more or less sulphur; whereas, tar soon dries and loses its repulsive odor, which is not the case with sulphur.

In wet climates, shepherds are much troubled with the maggot of the common green-blowing fly. They must look over their sheep every day; for wherever the fly finds a wet place in the wool, it deposits its eggs, which soon become maggots. If left alone a few days, they kill the sheep. In some parts of England, shepherds simply shear the wool where the maggots are, and then pour on them a gallon or two of clean, warm water. This done, they do not hesitate a moment to turn the sheep to pasture, so great is their confidence in their remedy. I have seen it tried repeatedly, and never knew it to fail.

ECREC.

Otsego Co., N. Y., July, 1850.

MULCHING, OR GURNEYISM, AS APPLIED TO FRUIT TREES.

We have lately seen several instances of this system, which should commend it to general adoption in all cases where there can be any hope of benefit from its use. The first was in an orchard consisting of nearly a thousand apple trees, belonging to Mr. L. F. Allen, on Grand Island. This orchard had been planted four or five years, on a hard clay soil, and during all the previous seasons, had made little growth nor scarcely borne an apple. Last spring, a large forkful of swamp grass was spread around the trunk of each tree, and the consequence has been, constant dampness on the surface of the ground beneath the hay, and a more vigorous growth than has ever before taken place, while almost every tree is covered with fruit. As the owner proposes giving us a full description of his orchards, and their treatment for this paper, we omit further notice of them for the present.

Another friend practises mulching with salt hay, which is much better for this purpose than the preceding. This contains an additional ingredient for attracting moisture in the salt combined with it. Many plants require shade and moisture, and when protected by this, will thrive and yield abundantly, which, if not thus protected would be entirely unproductive.

Another friend uses the shives, (the fine

woody portions,) of flax. By giving a thick covering of these to the ground around the trees, all the benefits of moisture are secured. There is a decided advantage in the use of this material, as it does not require to be raked off like hay and straw, on the approach of cold weather, to avoid harboring field mice or other vermin, which frequently commit great ravages among the trees during winter, when they have a hiding place near. The cutting of the hay or straw in a cutting machine, would prepare it equally well for this purpose, as the shives of flax. Tan bark, or sawdust are also useful; but it is better to have the latter discolored, so as to approach a dark brown. This color facilitates the radiation of heat, and the consequent formation of dews, both of which circumstances largely augment production.

REASONS FOR KEEPING THE BEST BREEDS OF STOCK.

MANY reasons have been urged why farmers should keep only the best breeds of stock. While it is true that an abundance of food will apparently improve any breed, or at least hide their deformities, it is also true that the same food, fed to the same varieties of animals, though of different breeds, will contribute both to the beauty of the animal, and interest of the owner.

Early maturity and a disposition to take on fat are intimately connected with the shape of the animal. But few persons have the perseverance and discrimination to make a Bakewell; yet, scarcely a man can be found, who, if called upon to decide between two animals of different organisation, but will instinctively decide in favor of the round-barrelled, small-boned, deep-chested, in preference to the slab-sided, coarse-haired, rough-boned, narrow-chested, animals; and yet, with our certain knowledge of these facts, how few are there amongst us who make a reasonable application of the knowledge they possess. And if any one is found possessing a spirit of improvement, how often is it the case that he is beset with obstacles, and his efforts counteracted on every side. At all times through the summer, may be seen herds of cattle, hogs, &c., rambling in every direction, turned out by their owners to curse community, in their daily task of highway robbery and usurpation.

Suppose one of our citizens, at great cost, introduces a superior Durham bull. If he is permitted to pasture in fields adjoining the highway, to prevent evil associations is impossible, fences will be broken down; he is led off by these marauders, and however docile by constitution he may be, these evil associations will soon make him ungovernable. The owner is soon compelled to fit him for the shambles. In the Empire State, the case supposed may not apply, but in Ohio, this is no fancy sketch, and notwithstanding the public may be benefitted by the introduction of the bull, in stamping his character or good points in his offspring, in the stock of the neighborhood, the owner's chagrin, disappointment, and loss of money have been the result. But how can this be remedied? I answer by disseminating the right kind of

knowledge among the people. If every farmer could be induced to become a subscriber, and a reader of the American Agriculturist, The American Farmer, The Plow, Loom, and Anvil, The Ohio Cultivator, or any one of these, how soon would the aspect of these things be changed. The slumbering faculties would be aroused, a spirit of emulation in husbandry, in general, and an improvement in breeds of farm stock, in particular, would pave the way for the passage of a law prohibiting animals from running at large. And then, how quickly would our fields be dotted over with beautiful square-formed Durham cows! How soon would our long-nosed, razor-backed, slab-sided alligator land pikes, which some people call "hogs," give place to the Chinese, or some other decent breed of swine!

The evils resulting to the community from bad breeds of hogs, extend much further than is generally supposed. Almost every person, at one time or another, has had ocular demonstration of the hard feelings, heart tearings, open quarrels, and expensive lawsuits, engendered by the instrumentality of these trespassers, which husk our corn, and dig our potatoes for nothing; and, like the prince of darkness, are always "roaming about seeking what they may devour." But these evils, great as they may be, are not to be compared to the deleterious effects they have upon mankind. Man is a physiological being, and his physiological existence depends upon certain important principles or laws. Every one knows that man is an eating being. Did he cease to eat, he would soon cease to live. The food eaten is received into the stomach. This, in the process of digestion, is formed into chyle, and this, by the action of the oxygen of the atmosphere, inhaled by the lungs, is formed into blood; and from this blood is formed the bones, the sinews, the muscles, and tendons of the human frame. Consequently, whatever is eaten by man, and not thrown off as extraneous matter, becomes assimilated into the system, and becomes interwoven into the very texture and existence of man himself. Is it not, therefore, as clear as demonstration can make it, that if a man were fed exclusively for a sufficient length of time, on long-nosed alligators, or land pikes, he would eventually, so far as animal physiology is concerned, become "bone of their bone and flesh of their flesh?" He would be all hog, except the bristles. And when we consider the very intimate connection between mind and matter, is it not equally clear that this animal system, composed in whole or in part, of swine, will have a powerful influence in the formation of the character of the man? That the animal propensities will become stimulated, and will usurp the throne, and when reason is thus subjugated, the man is transformed from being a good member of civil society, to a complete Ishmaelite, whose hand will be against every man, and every man's hand against him. I desire no better index to the general character of a neighbor, for benevolence, peace, love, and good will, or their opposites, than the breed and appearance of the hogs, reared and eaten by the peo-

ple who reside there. And were I seeking a location, I would select some green spot in the desert of Sahara, rather than settle down among a people whose exclusive food was alligators or land pikes. G.

Moore's Salt Works, Ohio, 1850.

CURRENTS.

We have never before seen so fine a display of currants as we lately witnessed on a rich clay loam near the head of Grand Island, on the Niagara River. They were growing in a long single row, the ground on either side of which is used as a garden. The clusters were more abundant, and fuller, and the berries larger and sweeter than any we have ever seen or tasted. This was solely the effect of an open position and thorough cultivation on a good soil.

Currants have been worth, throughout the present season, in the New-York market, an average of about five cents per pound, and very scarce at that. We know of no more profitable crop than currants, at that price. If they should at any time become a drug in the market, or a surplus accrues, their value can be doubled besides paying for labor and sugar, by converting them into jelly, which always commands a ready sale at high prices. They also make an excellent wine when combined with sugar and properly treated.

THE LAST CROPS.—In the lower part of Virginia, wheat is badly injured by rust. In Western New York, the crop is an average one. In Ohio and Michigan, it was supposed to be much injured by the severe drouth in the spring. We are now assured that the grain is good, though the straw did not attain a full growth. In Northern Indiana and Illinois, the winter wheat came in very good; but unfortunately, there was comparatively, with spring wheat, but little sowed, and the latter is almost entirely destroyed by the "chinch bug," a small, dark-colored insect that has the smell of those common in bedsteads. The loss of this crop will cut off a considerable quantity from the usual receipts from Chicago. Crops in Wisconsin, Iowa, and Missouri, are reported good. Corn, in Michigan, Indiana, and Illinois, is very luxuriant. Grass, as good as need be.

RECLAIMING LAND.—We frequently meet with instances of reclaiming lands, that are quite refreshing in these days of speedy and general exhaustion. A gentleman has just brought us a few samples of Timothy grass, the heads of which are over nine inches long, and the stalks some four and a half to five feet. The land was purchased by its present owner, about three years since, and was then so poor, that a crop of corn, then raised upon the ground, was fed off in the field, being too worthless to harvest. Green manuring, (crops raised on the ground and turned in,) and the ordinary manures of the farm, have, in the short period above indicated, effectually resuscitated this worn-out land.

THE CALIFORNIA WHITE OAK.

ALLOW me to suggest to you, a notice of a noble white oak, growing extensively in the valley of the river Sacramento, California. This magnificent tree is noticed in Colonel Fremont's several expeditions, and more particularly in his recent memoir, explanatory of his map of Oregon and California (U. S. Senate Miscellany, No. 148, 1848, p. 17.) This is a new species of oak, attaining six feet in diameter, and often eighty feet in height, bearing an acorn one and a half, and frequently two inch in length, which Professor Torrey and Colonel Fremont have given the significant name of long-acorned oak (*Quercus longiglanda*).

This long-acorned oak will unquestionably flourish in the valley of the Connecticut River, from Middletown to Deerfield, and probably would succeed in the pine regions of New Jersey and Pennsylvania. I have this day ordered two bushels of acorns, through a Boston friend, and it occurs to me to write to you, who keep a seed store, to order more largely and early, to plant, for the timber. Our country is fast stripping off its woods, when our hills and plains will be as barren, bleak, and uninviting as Palestine or Arabia. The cabalistic commandment "to multiply and increase and plant trees," should be enjoined upon the consideration of all humane and intelligent communities and people.

The Indians of California make this acorn their dependence for food; but there will be no difficulty in procuring large quantities, at any time, even to plant late this fall, if ordered by next mail steamer, via Chargres.

HOMER HOLLAND.

Westfield, Mass., Feb., 1849.

IRRIGATION—No. 3.

Fertilising Qualities of Water.—As a general rule, there is no water too bright, nor too full of impurities, if kept in motion, to be useless for the purposes of irrigation, as is evinced by the brilliant, chalky waters of the south of England, and the still greater fertilising effects of those surcharged with organic matter, in the Craigintinny meadows, near Edinburg. Hence it is that some of the most sagacious cultivators have come to the conclusion that the chief advantages of irrigation are attributable to the foreign substances, whether organic or inorganic, with which the water is impregnated. "The surest proofs," says Mr. Exeter, "of the good quality of water, as a manure, are the verdure of the margin of its streams, and the growth of strong cresses in the stream itself; and wherever these appearances are found, though the water be perfectly transparent, the occupier of the soil through which it flows, may depend, in general, on having a treasure." Again, those waters which breed the best fish are regarded by some, as the best adapted for watering meadows, while others are of the opinion, and among them, Sir Humphrey Davy, that most of the benefits of irrigation may be derived from water of any kind.

The fertilising properties of spring or river water are often owing to the crenic and apo-

crenic acids they contain. The former is a new organic acid found in all soils, and in mineral waters, as well as in the juices of plants. It was first discovered in the Porla Spring, by Berzelius, and was named by him. *crenic acid*, from the Greek word signifying a fountain or spring. It abounds more in subsoils than on the surface, owing to the solubility of some of its combinations, particularly those with lime and alkalies. It possesses highly fertilising properties, when neutralised by bases forming soluble salts. *Apo-crenic acid*, is another new acid, first discovered, also, by Berzelius, in the waters of the Porla Spring. Its name signifies "from the crenic," as it is always found with that acid. It is one of the constant ingredients of the organic matter, or mould of soils, and is an active fertilising agent, being highly charged with nitrogen. It is found combined with protoxide of iron, forming bog-iron ore. Its combinations with bases are called "apo-crenates," some of which are highly soluble, as the apo-crenates of the alkalies, potash, soda, and ammonia; others, again, are difficultly soluble, as the apo-crenates of lime, alumina, manganese, and of the protoxide of iron. Alkalies decompose all the insoluble apo-crenates, and form, with the acid, fertilising manures. [See Jackson's Final Report of the Geology of New Hampshire, pp. 365, 366.]

Melted snow, or rain water, it is well known, is a true manure, containing carbonic acid, a little ammonia, and a small amount of salts. Its fertilising effects on vegetation are too familiar with most of our readers to need repetition here.

Common river water usually contains more or less of the constituents of vegetable and animal bodies; and after rains, there is generally a greater proportion of these constituents than at other times, which is habitually largest when the source of the stream is in a cultivated country. Whenever the water has flowed over or through a calcareous or limy bed, it is generally found impregnated with carbonate of lime; and such water tends, in that respect, to ameliorate a soil in proportion, as though any, of the modifications of lime and charcoal were deficient; but where these are already in excess, water, charged with a limy sediment, should be withheld; while that impregnated with sand, clay, plaster of Paris, or particles of iron, would be beneficial.

But most of the benefits of irrigation, as before intimated, may be derived from any kind of water, (salt water excepted,) provided the soil be not already overcharged with the prevailing ingredients in the deposit, or sediment left by the water; and provided, on the other hand, that the ingredients of the soil and the ingredients of the deposit are not pernicious when combined. For instance, water containing ferruginous impregnations, (particles of iron,) tends to fertilise a calcareous or limy soil, while on a soil that does not effervesce with acids, which is one of the tests of the presence of lime, it is injurious. Again, calcareous waters, which are known by the earthy deposits they afford, when boiled, are of most benefit on silicious or flinty soils containing no appreciable amount of carbonate of lime.

Thus, if the farmer has a complete command over a neighboring quantity of water, containing a suitable alluvial deposit, he may render a cultivated level, or an incline plane, requiring rest and a cheap manure, extremely productive with comparatively little labor, by irrigating on the principles we have laid down.

GOOSEBERRIES.

This delicious fruit seldom attains perfection in this country owing to our dry, hot climate. In England and Scotland, where the climate is much cooler and moister, the gooseberry grows to a much larger size, and acquires a very fine flavor. Entire success has been secured in their cultivation in this country, by thoroughly cutting out the tops; manuring with saltpetre or common salt, mulching with salt hay, and by the use of other fertilisers.

One of our friends adopts the plan of rearing them in alternate rows between his grapevines, which are trained on wire trellis work. The gooseberry starts early, and has the full benefit of the sun, while the spring and early summer rains abound. When the sun has attained greater power, and the ground and atmosphere have become drier, the fresh manures from the vines, and their broad and thickly-clustering leaves afford ample protection to the gooseberries. This practice is so successful, that he assures us he has sent many bushels to market this season, from a few bushes, besides supplying his large family with all they could consume.

DIXON'S PATENT FOR FIRING KILNS FOR POTTERY, &c.

THE following is a description of the principle, or character, which distinguishes the above improvement in firing kilns for baking pottery, bricks, draining tiles, etc., from all other things before known, and of the manner of making, constructing, and using the same, reference being had to the accompanying engravings, making part of the specification, in which fig. 74 is an elevation of the front of the kiln, and fig. 75 a horizontal section. The same letters indicate like parts in the figures.

Pottery and porcelain or other kinds of earthen ware, require a greatly diffused heat, on account of the amount of room occupied in the kiln. If the heat be not diffused, the articles near the fire; that is, at the bottom of the kiln, will be "overfired," or burned, and those at or near the top will be "slack burned," or not sufficiently baked. The only kinds of fuel heretofore used for this purpose, are wood and coal, the former being preferable, on account of the greater amount of flame produced by the combustion; but even with the kinds of wood that give the most flame, the lower part of the kiln will be "overfired," while the upper part is "slack burned."

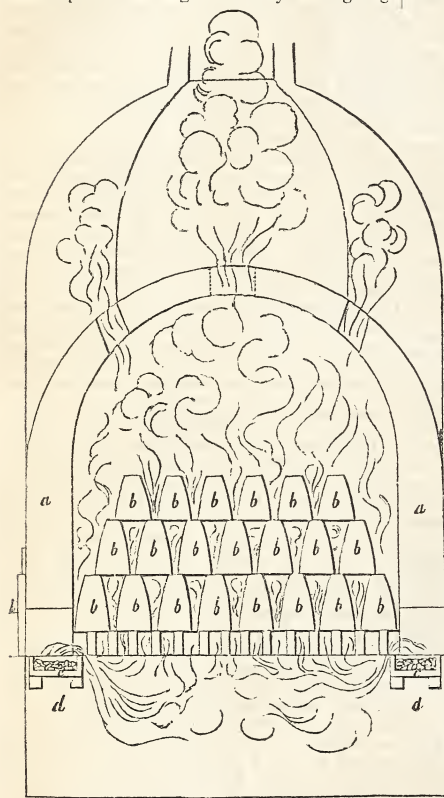
In all kinds of fuel heretofore used for this purpose, after the combustion has progressed sufficiently to have distilled out the volatile parts, there remains in the furnace a mass of incandescent coals, which give out an intense, but not a diffused heat, and overfires the lower part of the kiln.

In the accompanying drawings, *a, a, &c.*, represent the kiln, and *b, b, &c.*, the articles of ware stacked up in it to be baked, with the flue spaces formed thereby for the passage of the flame and other products of combustion around them. At the bottom of the kiln are placed pans, *c, c*, to contain common rosin, and placed over small pits, *d, d*, in which the fire can be made to melt the rosin, atmospheric air being admitted to the fires in these pits through apertures *e, e*, in front of the main pans, which apertures are governed by sliding reg-

isters to the main flues, to enable the attendant to examine the condition of flame within the flues.

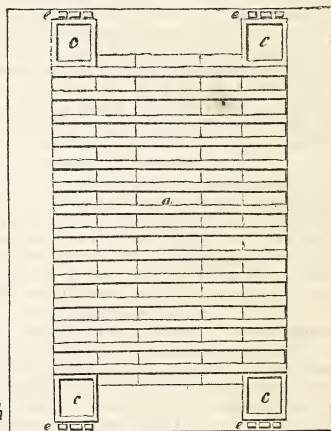
After the articles to be baked have been arranged, and the kiln properly prepared for firing, small fires, just sufficient to melt rosin are made in the pits under the rosin pans; common pine rosin, in lumps, is put into the pans, and as it melts, the gas evolved is inflamed by the admission of atmospheric air, which produces flame in such quantity as to pass through all the flues formed by the ware in the kiln, and completely envelope the pottery or articles to be baked.

The intensity of the flame can be increased or decreased, by means of the registers which govern the supply of atmospheric air to the inflammable gas; the greater the supply of air, the more intense the flame, and *vice versa*. The flame thus produced is so diffused as completely to envelope the articles to be baked from the bottom to the top of the kiln; and so great is the quantity of combustion, or



KILN FOR BURNING POTTERY.—FIG. 74.

isters in any manner desired. The front and back walls of the kiln have openings, one of each rosin pan provided with vertically-sliding registers, *h, h*, suspended each to a chain that passes over a pulley, and having a counter weight hung to it, so that the attendant can, by moving the registers, regulate the admission of air to the inflamed rosin, and thus increase or decrease the combustion as the condition of the kiln may require. Holes provided with plugs may be made in the walls,



GROUND PLAN.—FIG. 75.

inflammable matter in the gas thus produced, that the action of the oxygen of the atmospheric air admitted, is entirely cut off from the surface of the articles being baked. Should it be desired to make a kiln very high, atmospheric air may then be admitted through vent holes, near the top, to inflame the gases in the upper part of the kiln; but, in kilns of the size ordinarily used for baking pottery, and other kinds of earthen ware, this will not be necessary, as it has been found, that, with the largest size heretofore used, the flame can be carried even above the top, and give throughout the desired heat to bake equally.—*Farmer and Mechanic*.

—♦♦—
GATHERING SEEDS.—The largest seed vessels should be selected, and the seeds gathered as soon as possible after they are ripe, and always on a fair day.

THIRD DUKE OF CAMBRIDGE.

The cut below is a portrait of the 3d Duke of Cambridge, imported last year, by Colonel J.

He was got by Duke of Northumberland, (1,940,) out of Waterloo 2d, by Belvedere (1,706); out of Waterloo 1st, by Waterloo (2,816); out of



THIRD DUKE OF CAMBRIDGE—PROPERTY OF J. M. SHERWOOD AND A. STEVENS.—FIG. 76.

M. Sherwood, of Auburn, and Mr. A. Stevens, of New York. He was bred by the late Thomas Bates, Esq., of Yorkshire, and is considered one of the best bulls ever brought to America.

Lady Antrim by Waterloo (2,816); out of Anna by Lawnsleeves (365); out of Angelina by Phenomenon (491). See English Herd Book, vol. iv., page 614, No. 5,941.

We think this cut is engraved in superior

style; and trust that the animal it so faithfully represents, will leave a numerous and highly improved progeny behind him.

The 3d Duke of Cambridge won the first prize for bulls in aged class of shorthorns, at the show of the New-York State Agricultural Society, held at Syracuse, in September, 1849.

VIRGINIA FARMING.

How to Improve Worn-out Lands.—The great error committed by most Virginia farmers, is, in cultivating too much land in grain, and particularly corn. The corn crop is exhausting. It requires much nutriment from the soil, and frequent stirring of the earth with the plow, the hoe, or the cultivator, which soon exhausts the soil, unless it receives large and frequent supplies of manure, to restore what has been extracted from the soil by the crops taken from it. If a piece of virgin land be cleared and put in corn, and this crop repeated annually for three or four consecutive years, the vegetable matter in the soil is exhausted, and the land is worn down by such an injudicious course. This, although improper and injudicious, is a very common practice. If such land, before a plow is put in it, could receive a dressing of 50 or 100 bushels of lime, or 100 to 200 bushels of marl, and after a crop of corn has been taken from it, succeeded by small grain, and on this crop clover seed sown and permitted to remain on the land two years ungrazed, and then plowed down to be again cropped by corn or wheat, the land never would, and never could be worn out, but would be annually improving. Such, I am pleased to say, is becoming the practice of our best farmers, who are already reaping rich harvests by such a course of improvement.

The old three-field system, which has been so injurious to the farmers of our state, is becoming fast into disrepute, and the four and five-field systems are much more generally adopted than formerly. The old three-field system was very ruinous to our lands. The first year, one third of the arable land was put in corn, the next year in wheat, if it would produce it. If too poor for wheat, it was put in rye or oats. The third year, this same field was made a pasture for all the cattle and hogs on the farm, so that at the end of the year, there would not be a spire of grass remaining on the field. Then it was again subjected to the same course of cropping and grazing, without the application of manure, in many instances. And those who made great exertions to make and apply manure, could not raise a quantity anything like sufficient to apply to the large field intended for corn the next year, and consequently, the most industrious and persevering farmer was compelled to cultivate a large portion of his corn crop without any manure. And even such a one saw, by this system, his land deteriorating, or at best at a stand-still.

But I am pleased to say a better system is coming into practice, and our farms are beginning to show the great advantage of a different system. Some adopt the four-shift; one in corn, one in wheat, oats, or rye, and two in clover.

This is a beautiful system, and if properly carried into practice, by the aid of lime, marl, and manures, will, in a short time, make the poorest farms present a different aspect. Instead of the bare and naked earth, you will have presented to your sight verdant and luxuriant fields of clover, wheat, or corn. And the farmer, instead of reaping scanty and unprofitable crops, finds that he has to enlarge his granaries and build additional corn cribs.

The five-field system is practised by some farmers. That system taxes the land more severely than the four-field. The custom is to put two fields in wheat, one in corn, and two in clover. Thus three fifths of the farm are in grain, and two fifths in grass. Whereas, in the four-field, only one half of the farm is in grain, and the remaining half in grass. Both systems, however, have their advocates.

Another four-shift plan has been adopted by some of our best farmers, and successfully pursued, for a long period, namely, two fields in wheat, one field in corn, and only one field in clover. Under this plan, there should be no grazing of the fields, and it becomes necessary to have a standing pasture, as it is called, or a piece of land devoted to grass and pasturage.

Any of these systems, however, if well and properly carried out, will result in a rapid and decided renovation of worn-out farms, as they are called. Our farmers have abundant and ample sources from which they can, by a judicious system and an industrious application of the means within their reach, make their poorest fields rich and productive. I can speak more particularly of the advantages of the seaboard where I reside. Here we have marl on or near most farms. If that cannot be had, we have navigable water to our farms, and can procure lime in any quantity. We have an inexhaustible supply of vegetable matter in our woods and on our shores, as well as marsh mud in the greatest abundance. All that is necessary to give new life and vigor to our exhausted lands, is, to make a compost of lime, leaves, and marsh mud, and apply a good dressing before planting in corn, and it will show pretty soon that the farmer did not labor in vain.

In consequence of the great abundance of marl in Eastern Virginia, and the use of it pretty extensively, it is effecting a wonderful improvement, wherever it is applied. Although it does not exist on my farm, except at such a depth as to be inaccessible for agricultural purposes, I have, notwithstanding, used marl with great and decided advantage. Marl, I have obtained from York River, and lime from Baltimore and from Maine.

A VIRGINIAN.

Mathews County, Va., June, 1850.

SELECTION OF SEED CORN.—This month seed corn should be selected. It can only be well done in the field, by gathering those ears with small butt-ends, the second ripe, and taken from stalks which have two or more well-filled ears to each. In this way, the best varieties of corn in cultivation have been obtained.

THE SENSE OF SMELL.

INSENSIBLE must be that person who can take a beautiful and fragrant rose into his hand without feeling thankful for so good and perfect a gift. With the most systematical form and color is blended an odor more exquisite than all the arts of the chemist's laboratory could ever imitate, or we enjoy, but for the sense of smell. This lovely flower is a favorite among all people wherever it grows, and is more sought after by civilised man, than any other. Why? Is it because of its beautiful varying tints? No, for other flowers, the dahlia, for instance, in this is more wonderful; but it lacks odor. It gives no pleasure to the sense of smell. It is this sense that gives us a higher degree of enjoyment than the sense of sight. How often have been sung the pleasures of the hay field—the beauties of making hay. Deprive us of the sense of smell, and what should we find there to attract us to the spot and give us pleasure?

The objects about which the sense of smell is constantly employed are as incomprehensible as the other creations of the same power that created these. They are no casual productions, they are given to make man happy if he so wills it. The sense of smell is the poetry of all the senses. It may be cultivated with taste. Our dwellings may abound with sweet flavors as well as pleasing views. Everything that is cultivated to corrupt the sense of smell, should be as carefully excluded from the vicinity of our homes, as things that are offensive to the sight, if we would avoid corrupting the minds of those more than tender plants we are rearing there. Familiarity with corrupt smells will corrupt the taste, and render the sense of smell obtuse to the pleasures always enjoyed by this pleasure-giving faculty in an uncorrupted state. This sense, too, should always be consulted for the benefit of our health. That which is offensive to it, indicates that the salubrity of the atmosphere is affected, and should warn us at once, to remove the cause that is slowly diseasing the human bodies that come within its deleterious influence. But the disease of the body is not so certain as the disease of the mind, that lives within the influence of such vile smells as fill the precincts of some places, some human beings denominate their *home*, a word that should always call up a sacred feeling of love to hear it spoken.

Here is the picture of a "farmer's home" I lately visited. Not five rods from the door there is a duck pond daily stirred up by a dozen dirty swine, filling the air with anything but the scent of roses. At the east end of the house, and directly under the window of the "spare bedroom," stands—What do you think? A rose or lilac, or a bed of flowers, or a climbing honeysuckle, to fill the room with sweet odors, as the morning sunbeams find their way through a curtain of green leaves, charming the sense of smell of those who sleep there, and awakening in their minds a feeling of thankfulness to God, for the gift of smell and odors of flowers that give it gratification? No. Instead of these, the space is filled with hen coops—useful, to be sure—but

out of place, and corrupting the atmosphere with a most villainous stench. On the south side of the house, and directly in view of the door of the dining room, and scarcely fifty feet from it, stands a small building, which should always be located far away from the dwelling, and if possible, out of the range of prevailing summer winds, shrouded with evergreens and creeping vines, and kept in such condition by the use of substances that absorb ammonia, and frequent cleanings, that the sense of smell should scarcely be offended by a visit to it, as it now is while partaking of the morning meal. By the side of the back kitchen door, stands the swill barrel, steaming with putrifying buttermilk and bonny clabber; and just three rods off is the trough and pen where it is fed to the pigs; and immediately in connection with that, the cowyards and stables. On the side opposite the swill barrel, and within three feet of the door, is the spout of the kitchen sink, and an open drain to carry all the dirty suds and slops slowly winding along between overhanging weeds to feed the duck pond first mentioned. The house itself, a one-story, shingle-sided, gambrel-roofed, unpainted structure, with stone chimneys, stands corner-ways to the road, and separated from it by a crooked rail fence, and rickety gate, without a single shade tree to hide its hideous nakedness, nor a flower to charm away the offence offered to the sense of smell by all the horrid things surrounding this farmer's home.

Can the inmates of such a house be pure in heart? Does not the mind of man grow upon the food it feeds upon? Can the sense of smell be blunted and save the moral faculties free of contamination? Is it to be wondered at that children, who have such a home as this, whenever their minds become elevated by visits to more pleasing scenes, lose their love for the old birthplace of themselves and their ancestors and wander far away from fatherland, in pursuit of enjoyments that might have been procured at home, only that they have been sickened with everything connected with it that calls up a reminiscence of its offensive sights and smells?

Shall we be told these things cannot be avoided on the farm—that manure must be made, and such objections arise from ridiculous fastidiousness? Truth will answer, the more cleanly the premises, the more free from offense to the sense of smell, the more are the fertilising properties of all offensive substances saved and locked up in fresh mold, charcoal, peat, copperas, tanner's bark, or better still, gypsum, which have been freely used, to keep the air sweet and pure, and concentrate the escaping ammonia in a solid form, to carry to the field, and increase the growing crops to a value ten times greater than all the cost of the substances that in the using have added so much to the pleasures of the farmer's home. Fastidious indeed! Pity it were not more fashionable. If you would make your children coarse and unintellectual beings, rear them in just such a place as I have described; scold them for being too fastidious if they "turn up their noses" at the vile odors surrounding them, and you will succeed in blunting the

sense of smell and every other faculty that distinguishes man from the brute. From the brute? That is a slander upon the delicate sensibility of some of the brute creation, and nice faculty of the sense of smell, which they possess, and which prompts them to avoid locations that none but man, whose sensibilities have been contaminated by long association with filth, would ever think fit for a habitation.

In the case of inferior animals, how wisely this faculty has been adapted to their particular purposes! With what unerring certainty the faithful dog follows the footsteps of his master through the masses of the crowded street or wild jungle of the tangled forest! God gave him the sense of smell, and unlike man, he has not abused it.

The strength of this sense in the blood hound is still more wonderful. Give him but one smell of a cast-off garment of the fugitive to be followed, and he will distinguish his track from all others. The acute intelligence and determination which these animals evince in pursuit of a quarry, is almost indescribable. The fineness of the sense of smell, possessed by the deer, is often of great advantage to the Laplander when travelling over a vast expanse enshrouded in snow. It is only by their smell of the moss, though buried several feet, that they can tell whether the spot chosen to pitch the tent is upon land or water. Many a lost traveller never would have been rescued from his snowy death bed, but for the delicate sense of smell possessed by the convent dogs of the great St. Bernard. Caravans, overwhelmed and lost amidst the desert sands of Africa, have been saved from destruction because the camel possessed and exercised a faculty that man is constantly at work to blunt and destroy—a faculty which, if cultivated, would add greatly to his happiness. Who that possesses a refined sense of smell, though he has spent years upon the ocean wave or city pavements, but feels as though he snuffed the sweet fragrance of the fields and forest flowers, whenever he reads of scenes of country life? How the odors of the orchard fill his nostrils in spring when the mere name of the country tingles upon the sense of hearing. One of the sweetest of his pleasures of memory is the recollection of the odors that made him love the flowers with which God carpeted the earth where he first breathed their sweet fragrance.

In vain for him the golden morn
Awaked the song of vernal bird;
No sight nor sound, emotion gave,
Like that which fragrance stir'd.

Oh, ye denizens of the country, who might live in the constant enjoyment of Persian gales, how have ye perverted and abused this good gift of God, till ye are enabled to sit down contented to your morning and evening meals in the atmosphere of a duck pond or pig pen, and sleep in the fragrant effluvia of a hen coop, or drown the natural sense of smell, in the horrid stench of burnt tobacco.

S. R.

REVIEW OF THE JULY NUMBER OF THE AGRICULTURIST.

Benefit of Guano.—This article seems to be a plain statement of facts, sufficient to induce owners of "deadly poor" land to apply guano more extensively; and I understand this would be done, but for the price, which is thought to be unreasonably high. I have heard several persons say, in our independent Yankee land, that they would not use it now, however profitable it might be to do so, because it was a "monopoly;" and a monopoly they will not patronise under any circumstances. This may be an independent position to take, but so far as my little experience is concerned, it is not a very profitable one. It is too much like "biting the nose to spite the face." The Peruvian government monopolises its guano in the same sense as our government does the public lands; yet, there is this difference in its management: they sell to the English company for a certain number of years, not only what Great Britain and its dependencies consume, but all that can be disposed of in the United States; whereas, we sell lands to any one who pleases to buy. Now, what I would wish to bring about, is, to induce the Peruvian government to sell directly to any of our citizens who will purchase. We should then no longer have a rich English company lording it over us, to fix just such a price upon guano as they please. The first cost of the article, I understand, is only \$10 per ton. Now we have hundreds of vessels returning from California, with little or no freight, which would be glad to load with guano. I am for "free trade and sailors' rights;" so, let these vessels load with guano; we should then have it here in abundance, for \$40 per ton, a price which the independent farmers, (sailors, too, for that matter,) of staunch old Connecticut, would not object to. I understand General Taylor was in treaty with the Peruvian government to open a free guano trade, at the time of his decease. It is to be hoped that President Fillmore will follow up the negotiation with effect. I had no idea until recently, that Maryland and Virginia were using such large quantities of guano as they are. I am rejoiced to learn that the planters there are waking up to their true interests, though I must confess that I wish this valuable fertiliser were to be found in our own country. But I hope the necessity of importing it, will teach our farmers the still greater necessity of saving every particle of fertilising substance within their reach, and the most judicious application of it to their crops.

New Way of Raising Pigs.—New, indeed, but why not a good one? It certainly is no advantage for the pigs to run after the sow all day long, and it surely is a very great disadvantage to the sow, to have them continually dragging at her breast, and interfering with her opportunity to graze. No doubt both sow and pigs can be fed to better advantage by themselves.

To Destroy Wild Omions.—Feeding them off with sheep may be the most effectual way you have ever tried, but is it *wholly* effectual? If so, it is of the highest importance to some parts of

the United States, where they are so abundant that the cultivated crops are seriously injured. The best plan I have ever tried, is, to freeze them to death, by turning over the ground in the fall and harrowing it several times during the winter.

Pasture Lands.—That such lands should be more productive than those which have been mowed, is not to be wondered at, because the grass fed off by cattle is left upon the soil to enrich it, in their excrements. But it is wonderful when farmers do see such productive-ness, that they should ever think of keeping "permanent pastures," or permanent mowing lands in preference to a rotation of grain and grass crops.

The Horses of Siberia.—Interesting as this article may be in a historical point of view, I beg leave to inquire whether an article on the horses of America, would not have been more so? Do we import Siberian horses? or if we should, do so, would you recommend driving them "forty-eight hours under the yoke, without being once baited with feed or drink?" Or, would you recommend us to believe such is the custom in Siberia, or that they travel them "unchanged, a distance of 200 versts," (about 150 miles,) notwithstanding it is so stated in the book? The next time you are in the mood of "talking horse," pray, do not drive us quite so far without food or drink, or else we may kick the traces.

Cultivate a Variety of Crops.—Yes, and to be in the height of fashion, cultivate them in any variety of ways but the right one. If you happen to hear of any one succeeding better than you do, be careful not to adopt his course, because that would be an acknowledgment that your neighbor knows more than you. Stick to your old way if it is wrong; it shows your independence. What is the use of changing from one crop to another, your father did not? He never broke up an old pasture, nor meadow, to plant corn upon the rotting sod. He used to go along the roadside and dig up sods, and haul them into the barnyard, and rot them, and then haul them out into the "old field" to manure corn upon the same ground where he had grown it every year since he was a boy. But now these new-fangled notions would recommend you to grow the sod on the same ground instead of hauling it. The world is full of new notions.

To Promote the Success of County Agricultural Societies.—Good as these suggestions are, I think I can improve upon them. Besides the permanent building, or at any rate, enclosed yards and entrance fee, that every society must have to succeed, I would have the annual show, *a fair*, in the old English sense of the word. In the first place, I would charge one dollar membership, which should entitle the member to a year's subscription to any agricultural paper or book that could be had, wholesale, for half a dollar. The other half dollar should entitle the member to a vote to all business meetings, and free admission to the show grounds, and the use of a stall or place where he or she might exhibit or sell any article whatever, suitable to such a place. To make the fair more attractive, and

induce visitors to enter and pay the gate fee, I would hire a band of music, some good singers of appropriate songs; and perhaps exhibitors of some attractive and innocent pastimes for the children, and speeches for the old folks; so that it should come to be looked upon, not only as a place to show big bulls and fat pigs, but a real *farmers' fare and festival*; where, for three days, every sort of commodity should be for sale, and every sort of innocent, moralising and mirthful enjoyment had, for a small amount of money, from each visitor, but which would amount in the total, to a large sum, and enable the managers to give some real useful and valuable premiums, worth contending for by the stock or grain grower, or farm improver, or implement maker. What county will first try the experiment? My word for it, that it succeeds.

Cutting and Curing Hay.—I infer from the reading of this article that the writer is of opinion that, unless hay retains its bright-green color, it is nearly unfit for use. Such hay is most salable, but not always the most nutritious, nor palatable to cattle. If hay is put in cock somewhat green, it often undergoes a sweating process, and turns black, without heating or injuring its quality. If it is put in mow or stack in an uncured condition, and salted, it may turn dark-colored, but cattle never refuse it. The quality of hay in market may be judged in the same way that General Taylor used to select sweet corn in Florida, for his own bread or hommony. Among a number of sacks of musty corn, there were a few sweet ones, which were difficult to select, until the "good hard-horse sense" of "old Whitey," was called into requisition. He would poke his nose round among the bags until he found one to suit his taste, which also suited his master's; for instinct taught him to select none but the sweetest. I am not in favor of "early-cut grass for hay;" because my experience has taught me that after it attains a degree of maturity, it is more nutritious. Not, however, if the seed is threshed off as this writer says he did before sending the hay to market.

Adjustable Screw Wrench.—This is just about one of the most useful little farming tools ever purchased for the same amount of money. The name of its uses is legion. It is more easy to tell what it is not useful for, on a farm, than to enumerate all its conveniences. Like almost every other tool, the quality of this has been greatly improved of late, and at the same time the price reduced.

Breaking Rocks with Fire.—The writer thinks it is not generally known that rocks may be easily broken with fire. Perhaps not. Does he know all about it? To break a rock with fire, first make a little furrow across it with a pick, and then build the fire of something that will give the greatest heat, (charcoal is best,) and when red hot, pour water into the furrow. Some rocks will split with very little heat. I have known it done by a loose cotton rope dipped in spirits of turpentine and burnt in the furrows.

The Farmer's Home.—Strong as the contrast is drawn in this article, between what the farm-

er's home should be, and what it too often is, it is not half equal to the truth. Is it any wonder that children forsake such an old "shingle palace," or dirty-brick or dismal stone dwelling, that looks more like a prison than a "happy home," and wander away from the land that gave them birth, and never cast one single regret behind? Is it singular that children forsake rather than improve and beautify their home? Where are they taught to love the beauties of art or nature? Certainly not in the "district school house." Look at it, and where it stands. An old dingy, wooden, one-story house, never painted nor underpinned; never fenced, and of course, the hogs always had a nest beneath the floor. Look at the windows. One, two, three old hats stop broken panes; four are patched with paper, and one is filled with a shingle, and five still remain open on the side now in view. There is not a tree, not a shrub, nor a grass plat around it, and it stands in the fork of two dusty roads. The only place of privacy is a few distant bushes, or a rail fence. Here is where farmers' children are educated—taught the beauties of botany, and arts of rural embellishments, by which home is to be made attractive. Yes, just as attractive as the old district school house—attractive of disgust. I pray you, friend Derwin, give us a few more pictures; I will help you embellish them.

Farm of Mr. French.—Many more interesting particulars might have been stated of this extraordinary neat farm. Among other things, I would have opened the interior of his "tool house," for some of your readers to look into, and wonder what on earth a man could do with so many, or how he managed to keep them in such order, and to have a place for everything, and everything always in its place.

"The comforts about the house are such as might be expected." Yes, in a farmer's home; that, is such a home as every American farmer ought to have, and might have under a better system of education and cultivation. Dark and bright pictures improve by contrast. Let us have more of them.

Cultivation of Peaches on Long Island.—The writer says "One reason why peaches have not been cultivated more on this island, is, probably, because the farmers do not understand the treatment they require, &c." Are there not other reasons? One of which is some portion of the farmers of Long Island do not belong to this age of improvements. They are antediluvians—living in their ancient "shingle palaces," cultivating their land just as their fathers did, and honestly believing that all the uncultivated land cannot be cultivated because it never has been."

Economy.—Here is almost a page of matter under this title. What for? Is it an English word? Does anybody understand its meaning? "Teach children economy." Do you think they would be so unfashionable as to practise what Webster's Dictionary defines this word to mean? "The management and government of a family; frugal and judicious use of money?" This is all very good advice, but the tyrant law of fashion will not permit it to be acted upon.

Reclaiming Worn-out Lands without Manure.—The self-congratulations of this farmer that he had been able to keep his land fertile by feeding out all his hay upon the land, without using any foreign manures, is just about equal to a man congratulating himself that he had always been able to carry his grist to mill on horseback, with a stone in one end of the bag to balance the corn, "without the aid of foreign" wagons. Where there is a convenient market for hay, it will probably pay better profits to the farmer to sell it, than any other crop, or feeding it on the fields where grown. Return an equivalent in foreign manures, and your land will not become exhausted. It is not always good economy to feed it all to cattle at home.

How Horses Get the Colic.—The "prevention" recommended in this article may do for Siberia, it never will be practised in this go-a-head country.

A Chapter on Various Subjects, one of which is a "hit" at the "Captain;" in which he is requested to "hold up his head and speak like a man," and give a categorical reason why he "guessed" a certain article was written by a lady. This is the first time I ever heard any surprise expressed because a Yankee *guessed* at anything. I thought they had a prescriptive right to that franchise. But as "Agricola" doubts it, I will only guess once more. I *guess* I cannot answer the question put to me, notwithstanding I have held up my head as desired, and spoken as much like a man as I am able to under the circumstances; as you are aware I am obliged to keep myself always in the dark, lest you should see my ugly face, and then there would be no more guessing who owned it. And now I *guess* I will pass over a great many other articles that enrich this number of the *Agriculturist*, for fear somebody else besides Agricola will accuse me of "poking jokes" at him, and so poke them back at me, and injure the reputation of your

REVIEWER.

FAILURE IN THE CLOVER CROP.

For the last half century or more, the commonly-cultivated red clover has often failed in many sections of Europe. This has been attributed to various causes, but principally to the exhaustion of one or more of the ingredients of the soil essential to securing a productive crop. Aelbroeck, in his work called *L'Agriculture Pratique de la Flandre*, has, with no little reason, given the following as the principal cause for its failure:—

He says, "the orobanche, or broom rape, (*O. major*, *O. vulgaris*, *L.*) is a parasitical plant; that is, it attaches its roots to those of other plants, instead of fixing them in the ground. The seed of this singular plant vegetates, as usual, in the ground, and the plant grows to some height, when its connection with the ground is broken, and a new root formed and fixed on an adjoining plant. It is mostly found on the roots of clover, hemp, and broom, and most frequently on poor soils. The second crop of clover seems, also, to be more liable to it than the first. Strong clay soils are less subject to the

growth of this parasitical plant than lighter soils, and the clover grown upon them is often so vigorous as to survive any slight evil produced in the first crop, but not always able to do so in the second growth. Dry seasons, (as being most unfavorable to the vigorous growth of the clover plant,) are most favorable to the spread of the broom rape. It appears to be indigenous to Flanders, though it has only attracted attention during the last forty or fifty years. Since that time, it has gradually spread more and more, until, in some parts of that country, very serious injury is done to the clover crop.

Within the last few years, these facts have excited great attention, and several memoirs have been written on the subject. The information they contain is chiefly botanical, so that no further notice of these memoirs can be interesting except to extract the information they contain respecting the destruction of this pest to the farmer, and to suggest such other methods as have been found successful. It is thus shown that the clover may be destroyed by a parasite, having as substantial and bone-fide an existence as the ivy that fastens itself to the decaying elm, or the mistletoe on the oak. A remedy has been found by mixing ashes with the clover seed and rubbing closely together between the hands, then stirring in water, and after the clover seed has settled, pour off the floating rape and ashes. Repeat this two or three times.

The dodders are found to be extremely prejudicial to many plants, and the clover among them, constituting, as it does, a parasite to the whole family of the leguminosæ, peas, beans, the clover, &c.

COCHIN-CHINA FOWLS.

HAVING made inquiry in the December number of the eighth volume of the *Agriculturist* concerning some reputed peculiarities in Cochin-China fowls, and as no answer has yet appeared in relation thereto, I send the following for publication:—

In the first place, it may be well for me to give the history of my fowls as far as known. The stock from which mine descended, was imported direct from Shanghai, in May, 1847, by Mr. John J. Taylor, of Monmouth county, New Jersey, from whose brother they were procured, who resided in that city two or three years, where they cannot be bought for less than \$5 per pair.

As far as I have been able to ascertain, the feathers on the necks of the cocks do not turn upwards, as has been asserted by some; but "the wing is jointed, so that the posterior half can, at pleasure, be doubled up, and brought forward between the anterior half and the body." The general description of this breed appears to agree with that of the queen of England's, as given by Richardson in his *Treatise on the Domestic Fowl*.

The combs of the cocks are mostly, but not always single, the size, middling, the wattles, thin, fair-sized, legs always yellow, or reddish-yellow, and generally lightly feathered, with the spurs very short and sharp. A pullet procured

of Mr. Taylor, in every other respect a perfect resemblance to his imported hen, has no feathers on her legs. The color of the cocks vary from a reddish gold to a red bay. Mine is of a light bay on the breast and thighs, wings beautiful gold and red, neck feathers black, covered with red and gold hackles; back hackle, bright gold, tail, black, which does not appear before five months old. The wings are small and decidedly jointed, so that the end of the wing folds up between the main part of the wing and body, and in the chickens, the end of the feathers frequently show above the body of the wing. When young, the wings often cross each other on the back, and at no age, fold around the body below the tail, as in the common fowl, but incline to meet together on the back. I consider the cock a very compact, well-built, beautifully-colored, handsome bird.

The hens vary but little in shade of color, much resembling, in form, the portrait on p. 35 of Browne's *American Poultry Yard*, and the description there given of the Cochin-China hen corresponds with mine in color, character, and all, except mine are generally lightly feathered on the legs. They are very meek, motherly-looking hens. The eggs are about the size of those of the common hen, of a reddish color. The chicks, when first hatched, are considerably larger than the common ones.

These fowls are the most hardy, peaceable, quiet, and fonder of home, than any others with which I am acquainted. A flock of fifty or one hundred together forms a beautiful sight. I believe them a distinct breed, because, first, the color never changes, neither do they show now and then a streak of Malay nor any other colored bird. Their color is their own, of which I should call them very tenacious. Second, although Mr. Taylor has bred them in-and-in for four years, they do not, in the least, degenerate. Third, the tail feathers always show at the same age in all the pullets, and although later, in all the cocks of the same age. Now, what two breeds can you find that show the tail at the same age? Certainly, if you cross two breeds together, showing the tail, one at an early age and the other later, the chickens would some show the tail young, and others late. I content that no new breed can be formed from different bloods, and here, Mr. Bennett, a late writer on poultry, is decidedly in error, in pretending to have formed a Plymouth-Rock breed from Cochin-Chinas, fawn-colored Dorkings, Great Malays, and Wild Indians. They are no breed, but most mixed-up mongrels. I undertook, about six years ago, to form a breed that should resemble each other in form and color. I had about as mixed materials as Mr. Bennett mentions. I succeeded at first very well, producing a beautifully-colored cock of white, gold, red, and black. Each year, the chickens would turn out several cocks resembling the father. Finally, the old cock died, the next oldest I killed, and these two years past, my fowls are all growing white, and the chickens, which at first were large and very thrifty from the cross, have degenerated, become miserably sickly things, hardly worth

raising. I would here refer all concerned, to Browne's American Poultry Yard, for the true principles of breeding, as well as for a great deal other valuable matter.

But, to return to Cochins. I procured four pullets and one cock, in August, 1849, all of them quite young. I may here state in proof of their hardiness and good laying qualities, that, from neglect or necessity I kept them in a small open yard, with an old barrel as their only protection, all winter; yet, they did not seem to suffer in the least, from cold, and commenced laying very early, producing, with few exceptions, eggs each day after commencing, which I never had pullets do before. One began to lay January 26th, and continued up to March 1st, producing 30 eggs, when she wanted to sit. I broke her up March 11th. She began to lay again, and produced 41 eggs more up to April 29th. May 11th, she began again and continued until May 29th, laying in all 90 eggs. I then sat her, and she proved a very steady sitter, a good nurse, and a profitable and valuable hen. The second one began to lay January 31st, and laid 20 eggs to February 22d. I then sat her. She hatched her chickens, and without weaning them, began to lay again April 27th—sat again May 20th, hatched nine chicks, raised them, and is now, August 3d, laying again, having produced eggs 10 or 12 days past. The third one began February 1st, and laid until 29th of March, missing some days between, when she wanted to sit. I tried to stop her, which I found no easy matter. She would sit, put her down on the ground, or where I pleased. Finally I gave her a cold-water bath, which seemed to throw her into a fever. She soon after began to lose her feathers, and has not laid since. New feathers have come in, and she has now every appearance of health. The fourth one commenced laying February 9th, producing 80 eggs to July 27th, and wanted to sit six times. I should say that they are good layers, excellent sitters and protectors of the young.

From some cause or other, the first broods did not hatch well; but since, they have done better. One hen, I recollect hatching 15 chicks from 17 eggs. I have had about 80 chickens hatched, and but one of them died of disease. Rats, or some other "varmints" have killed several, biting them through the head and neck. A more hardy, thrifty lot of chickens, I never expect to see. Some one has said they are great eaters. I should say they are great growers, and I never fed stock of any kind with which I was better satisfied with the growth for the food consumed. Will a pure-blooded shorthorn grow finely on light food?

In regard to the weight of these fowls, they are large enough. I do not know that any could be made to reach 15 pounds, but they can be made to weigh between 12 and 15 pounds. The heaviest cock taken from Mr. Taylor's roost in very common flesh, weighed $11\frac{1}{2}$ pounds; made fat, he would likely reach 13 pounds. The hens, in common flesh, reached 8 pounds. I would put the cocks from 9 to 12, and the hens 7 to 9 pounds.

If any one particularly wishes them, I will spare a few pair this season; but I wish to keep a heavy stock for breeding next year. The price will necessarily be high for four or five years to come, from their scarcity, great demand, high cost of stock, trouble and expense of building separate yards, to keep them pure; and, what I consider of great importance the cost of different stock cocks every year, so as not to breed them to their own pullets.

In breeding, I would recommend that the breeder have as many separate yards as cocks, putting from three to five hens with each cock, and then each year changing the cocks to different yards. The hens, of course, staying at home. By this means, with four or five cocks, the thrift and merits of any particular breed may be kept up for any length of time. The yards must be large and dry.

J. C. TAYLOR.

Atlantic, Monmouth Co., N. J. Aug. 3d, 1850.

NEW MODE OF BUTTER MAKING—BOILED BUTTER.

We have no disposition to substitute any other product of the dairy, for the deliciously sweet, aromatic butter, so abundantly furnished by our best dairywomen. But as a substitute, greatly preferable, either for luxury, economy, or health, we would exchange the miserable washy stuff, (which is, at first, a tolerable mixture of thick cream and buttermilk, but soon changes to an intolerable mass of rancid grease,) for the boiled butter of Switzerland, according to the subjoined mode of making butter, as given by Dr. Forbes, an intelligent English writer.

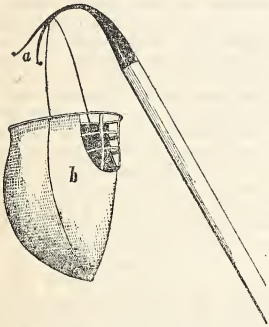
Into a clean copper pan, (better no doubt tinned,) put any quantity of butter, say from 20 to 40 lbs., and place it over a *very* gentle fire, so that the butter may melt slowly; and let the heat be so graduated that the melted mass *shall not come to the boil in less than about two hours*. During all this time, the butter must be frequently stirred, say once in five or ten minutes, so that the mass may be thoroughly intermixed, and the top and bottom change places from time to time. When the melted mass boils, the fire must be so regulated as to keep the butter at a gentle boil, for about two hours more, the stirring being still continued, but not of necessity so frequently as before. The vessel is then to be removed from the fire and set to cool, and settle, still gradually, the process of cooling being supposed to require about two hours. The melted mass is then, while still quite tepid, to be carefully poured into the crock, or jar, in which it is to be kept. In the process of cooling, there is deposited a whitish, cheesy sediment, (proportioned to the quantity of butter,) which is to be carefully prevented from intermixing with the preserved butter. These caseous grounds are very palatable and nutrient; they are constantly used as food. As might be expected, there are some variations in the practice of different individuals. One very experienced man assures me that a much shorter time than two hours need elapse between the setting of the vessel on the fire and the bringing the

butter to the boiling point. Another said that the time should bear some relation to the quantity of material used—an average period of ten minutes being allowed for every pound. The same party told me that if the butter employed was not quite sweet, the addition of a slice of bread and a slice of onion (?) will remove this; also, that the appearance of the grounds rising up to the top when the mass is stirred, is itself a proof that the boiling is sufficient. My guide at Chamouni told me that his wife usually added a small portion of salt to the mass, in the early stage of boiling.

Everybody agreed in asserting that butter, so preserved, will last for years perfectly good, without any particular precautions being taken to keep it from the air, or without the slightest addition of salt. Indeed, I myself tasted, more than once, butter so prepared, fully twelve months after preparation, and found it without the slightest taint. It wanted the flavor of fresh butter, but seemed to me infinitely more palatable than our coarse, salt butter.

NEW FRUIT GATHERER.

This implement consists of a strong canvas bag, *b*, with an iron hoop fastened to the mouth, which is attached to a long handle, or pole, by a wire bail.



FRUIT GATHERER.—FIG. 77.

The operation of the instrument is as follows:—The upper end of the pole, to which is attached the bag, is first directed into the head of the tree. Then, by means of the iron fork, *a*, the fruit is detached, which immediately drops into the bag, and is prevented from being bruised by the fall. When the bag is filled, which will contain two or three quarts, it is lowered to the ground, discharged of its contents, and the operation repeated until the tree is divested of its fruit.

An implement of this description, it is obvious, will be of great value to those who have large orchards of fruit, which cannot be easily reached by the hand. Price \$1.

WASHING WOOLEN CLOTHES.—Woolen goods should be washed in very hot suds, but never rinsed. Tepid water causes them to shrink.

MR. ROBINSON'S TOUR.—No. 21.

Virginia Fencing.—This term is generally understood to mean a crooked or worm fence, of split rails. But in some parts of the state, that kind of fence is least common. I noticed in Gloucester county a very good kind that may well be imitated elsewhere. It is made with alternate long and short panels, of lengths of five and ten feet, six and twelve feet, and three and ten or twelve. I like the last best. It makes a fence so near straight that it takes up but little room, which is a consideration too much lost sight of in good lands.

This fence may be staked and ridged, or staked and capped, if necessary. It is most commonly built upon a bank, as, in fact, are nearly all the fences upon the "low lands" in that and adjoining counties and in the Rappahannock Valley, upon the west side of the river, particularly. This ditching and banking for fence may be very well upon wet lands, but it is often carried to extremes. I have often seen it six or eight feet, and even higher, with sometimes no rails on top, and then it is no fence. Sometimes three or four rails, and then it is about half a fence, and sometimes eight or ten rails, and then it is a good fence; and so it would be if there were no ditch and bank. Where cedar grows, instead of rails, brush is often used, wattle together between stakes and makes a good, durable fence. It will last, with slight repairs, 20 years, if the stakes are of cedar or chestnut, both of which abound in Lower Virginia.

Another kind of wattle fence is made of poles, the stakes being set eight or ten feet apart. There are a few hedges made chiefly of cedar, and is generally a pretty good fence against cattle, except where the trees die, as is often the case, but no barrier against hogs, which *filthy brutes* are still permitted to run in the roads, notwithstanding the great advancement mankind have made in civilisation.

At Hazlewood estate, in Caroline county, the late residence of Colonel John Taylor, the oldest agricultural writer in America, which is now occupied by his heir and namesake, there are miles of cedar hedges, for which the Philadelphia Agricultural Society gave him a gold medal in 1819. It is said that it was then a beautiful and good fence. But, like all tree-growing plants used for hedging, it has overgrown itself. It has been found impossible to keep it trimmed down, and as it increases in height, as a matter of course, nature prunes the lower limbs. The great error, however, in planting this hedge, was, setting it upon a high bank, which has made it more difficult to trim, and keep in order.

There is another farm six miles below Fredricksburg, on the opposite side of the Rappahannock, upon both sides of the road, which looks beautiful at a little distance, but as you approach, you find it full of unsightly gaps and dead trees. Like that at Hazlewood, it was planted upon a bank, and was not trimmed down enough when young. There are a good many other cedar hedges in the state that I have noticed in my travels, none of which are fences.

An excellent fence very common in Virginia,

is made in this manner: A pair of stout cedar, chestnut or locust stakes are set strong, just wide enough apart to admit a large rail between, having a two-inch round tenon upon the top of each, to receive a strong cap, upon which a heavy rail is sometimes laid after the space below is filled up with rails, lapping one upon another, between the stakes. This kind of fence is most commonly built on a ditch bank. In fact, it seems in some districts as though the people have no idea of ever building a fence except they first dig a ditch, whether the land is wet or dry. The best style of fence upon these banks would be palisades, which might be made as follows:—Cut the stuff four feet long, of lasting wood, and split it the size of rails, and sharpen the upper ends; set these in the line of the centre of the bank, and throw the dirt around them. This is done by one hand to put them, one at a time, in place and hold them, while another throws dirt enough around to secure them. They should stand about four inches apart, and project above the top of the bank about two and a half feet. No animal will ever climb over such a fence from the bottom of a ditch, nor *vice versa*. The fence will be better, if a strip of board is nailed along the face of the stakes, about four inches from the top as that prevents any one piece being removed out of place. Perhaps a wire stretched along and nailed to each stake, would be cheaper than wood strips. This kind of fence will be found to be a very cheap and good one, wherever the owner has, or will dig a ditch. It takes less timber than a rail fence, and will last as long with less repairs. I would recommend gentlemen who are troubled with cattle pushing through hedges, to stretch a wire along through the limbs, or perhaps two of them. Generally speaking, the Virginia fences are very good, and in such abundance that they are a most enormous tax upon industry.

SOLON ROBINSON.

MR. LEWIS G. MORRIS IN ENGLAND.

SINCE Mr. Morris' arrival in England, in May, we have been favored by several letters from him. In his last, dated Exeter, July 24th, he had just witnessed the great Show of the Royal Agricultural Society, with which he was highly pleased. Aside from this, he had often visited Smithfield and Covent-Garden Markets, the two largest for fat stock, and fruits and vegetables, in the kingdom. He was also at the late Mr. Thomas Bates' celebrated sale of stock, where he purchased a few shorthorns, and at Mr. Jonas Webbs' annual sale of Southdowns, at which he bought several of his prime sheep. In addition to these, he has purchased some choice Devons, all of which are daily expected in the United States.

With the exception of passing three weeks in London, he writes us he has been constantly travelling in England, Scotland, and Ireland, examining the husbandry and manufactures of these countries. Several implements which he has seen at work on the farms there, he much

admires, but thinks them better fitted for the advanced state of cultivation there, than for the rapid and rather careless manner in which we do things in the United States. However, with proper modifications, he is of opinion that they may be made highly useful in our country, and with this view he will bring over some with him, on his return, to serve as models for our implement manufactory, if we deem them suited to our own country. We wish more of our citizens would go abroad with the laudable objects of Mr. Morris; they would then make tours of benefit to our countrymen, as well as of pleasure to themselves. In thus becoming acquainted, with foreign improvements in agriculture and its implements, and introducing them into practice, on their return, they would add to our wealth and productiveness, and confer a lasting benefit upon their fellows.

RICE THRESHERS.

THE difficulty of threshing rice by machinery, has long prevented the construction of such a machine as would effect the purpose, at a reasonable price. Rice is one of the most obstinate grains to separate from the straw. This is owing to the two-fold obstacle of very brittle straw, which yet holds the grain with a most tenacious grasp. To effect their separation, hitherto, nothing has been found adequate, short of a very expensive machine, costing many hundred dollars, and such could only be afforded on the large and exclusively rice plantations. Recently, however, a much less complicated machine has been patented, which costs less than \$100, and requires only the power of the ordinary grain thresher to propel it, and is adapted to all the other small grains, as well as to rice. The introduction of this machine, with a small rice huller, will do much to secure the cultivation of this valuable grain where it has been entirely neglected, and augment the product where it has been an object of minor attention.

CROSSING THE PHEASANT WITH THE DOMESTICATED HEN.—Mr. Dixon, an English author who has recently published a very interesting work on poultry, thus summarily disposes of a popular notion:—I have not met with one authentic fact of the race of pheasants having been really incorporated with fowls, so as to originate a mixed race, capable of continuation with itself, but with many that prove the extreme improbability of such a thing happening. The vulgar notions that hens kept by the sides of plantations therefore become the mothers of half-bred chickens, by which pheasant blood is again transmitted to their progeny, and that hens, whose plumage in some measure resembles that of the cock pheasant, are therefore hybrid individuals, are too vague to be listened to in the absence of clearer evidence, which is not yet forthcoming. But it will not be easy to eradicate this prejudice from the public mind.

KETTLES.—Brass kettles, before using, should be carefully cleansed with salt and vinegar.

Ladies' Department.

TO MAKE NUDLES—AN EXCELLENT SUBSTITUTE FOR VERMICELLI

Mix a teaspoonful of salt in half a pound of sifted flour; beat the yolks of four eggs, and add the flour, a little at a time, beating until it becomes thick; then flour the pie board, and knead the mass, adding slowly as much flour as it will take up; for the harder the dough, the thinner you can roll it. When you can work in no more flour, roll it with the rolling pin as thin as possible; with a sharp knife, cut it into slips two inches wide, knead the scraps together, and roll and cut them also. Lay these strips neatly one over the other, and cut them across, as fine as vermicelli; then sprinkle some flour over them, to prevent them from sticking together, and put them into the soup half an hour before it is taken up.

This quantity is enough for five quarts of soup. Nudles are best while fresh; but will keep well for several days, if spread thin between the folds of a napkin; but they require to be boiled much longer than when fresh.

M.

ON DRYING PLANTS SO AS TO PRESERVE THEIR COLORS.

No science, perhaps, requires so much practical knowledge as botany; in its study, botanical ramblings and the preservation of gathered specimens are of the greatest assistance. The usual method, however, of drying plants is generally long and troublesome, and, above all, very uncertain. Indeed, whatever quantity of papers is employed to separate the plants, and even if the damp papers are replaced by dry ones every twelve hours, ten days are required before the plants are properly dried, and at the end of that time they are so discolored, and their characters are so altered, that a great deal of practice is requisite to enable one to make them out. I have made several attempts to remedy these inconveniences, and I take the liberty of laying the results before the (French) Academy.

In a botanical excursion, I arrange my plants between sheets of grey paper, which immediately absorbs any free water arising from rain or dew. In this state, the plants can be preserved for 24 hours without alteration. The next day, I place them in very dry paper; then I put them in an apparatus of my own invention, in which they are completely dried in 24 or 30 hours, preserving the color of their leaves and the brilliancy of their flowers.

The following is the theory of my method:—The water of composition and interposition evaporates but slowly in ordinary cases. It, however, struck me that by raising the temperature and diminishing the atmospheric pressure I should probably arrive at a good result. I accordingly made a copper cylinder half a yard high, and two feet in diameter. In this vessel, I placed a packet of papers containing 100 specimens. I then put about 8lbs. of lumps of unslacked lime in the spaces between the paper

and the side of the cylinder, and fixed the top of the cylinder on. I then put the whole into a small tub, and raised the temperature to about 125° or 130°F. by means of boiling water poured into the tub. The air is then exhausted from the copper cylinder by means of a small air pump screwed into its lid. I make use of no ananometer, because, at this temperature, as the air is drawn out its place is filled by aqueous vapor, and besides, in such an operation as this, no precision is requisite. The vacuum once made, that is to say, after having pumped at intervals for two or three hours, the apparatus is left to itself for 24 or 30 hours; at the end of this time on opening the apparatus, the plants are found dry and like the specimens I have the honor to lay before the Academy.—*Gannal, in Comptes Rendus.*

A CAPITAL TOMATO RECIPE.—The following has been handed to us as the recipe of a good housewife for preserving or "curing" tomatoes so effectually that they may be brought out at any time between the seasons "good as new," with precisely the same flavor of the original article. Get sound tomatoes, peel them, and prepare just the same as for cooking; squeeze them as fine as possible, put them into a kettle, bring them to a boil, season with pepper and salt; then put them in stone jugs, taken directly from water in which they, (the jugs,) have been boiled. Seal the jugs immediately, and keep them in a good cool place.—*Exchange.*

TO MAKE HENS LAY.—The South Carolinian says a neighbor states that hog's lard is the best thing that he can find to mix with the dough he gives to his hens. He says that one cut of this fat as large as a walnut, will set a hen to laying immediately after she has been broken up from sitting, and that, by feeding them with the fat occasionally, his hens continue laying through the whole winter.

TO TOUGHEN NEW EARTHEN WARE.—It is a bad plan to put new earthen ware into boiling-hot water; it should first be plunged into cold water, and placed over a fire where it will heat moderately to the boiling point, and then be permitted to cool again. This process greatly promotes the toughness and durability of common earthen ware, which is generally objectionable for domestic uses on account of its fragility. The glazing on this kind of ware will remain uninjured by the boiling, if a handful of rye or wheat bran be added to the water, and prepare it to withstand successfully, and for a long time, the action of acid or salt.—*Exchange.*

FILLING BEDS.—Beds should be filled with barley straw in preference to rye, oat, or wheat straw, when obtainable. The husks of Indian corn, carefully selected, and slit into shreds, make an excellent article for beds. They are durable, clean, not very likely to absorb moisture, and are not objectionable on account of making dirt.—*Ibid.*

Foreign Agricultural News.

By the steamer Niagara we are in receipt of our foreign journals to 3d of August.

MARKETS.—*Cotton* has recovered from the slight depression of the week previous, and was at highest quotation of the month again. *Grain*, in consequence of the fine harvest weather was slightly depressed.

Death of Rev. William Kirby.—We regret to announce the death of the Rev. William Kirby, Rector of Barham, Suffolk, the well-known author of the Introduction to Entomology, written in conjunction with Mr. Spence. He died on the 4th of July, in the 91st year of his age.

Effects of Railroads on Agriculture.—It is stated in a late English paper, that in consequence of the introduction of railroads, the number of horses in England has been reduced from 1,000,000 to 200,000. Now it is computed that it requires as much land to subsist one horse as it does to subsist eight men. Consequently, it would appear that the 800,000 horses displaced by railroads make room for an additional population of 6,400,000.

Potato Disease in Ireland.—I am sorry to learn that disease is again beginning to show itself in Ireland, in the leaf and stalk, as well as in the shape of blotches on the tap roots. This may, perhaps, be the most favorable opportunity that has yet occurred for observing where the true seat of the disease is. Favorable weather, invigorating the vital force, has brought up the plant in the finest apparent condition, above ground. But is the tap root clean and white as it used to be twelve or fourteen years ago? If potato growers generally will ascertain this, with the least convenient delay, and continue their observations until the Royal Agricultural Society's meeting, and be ready to report them there, this great point may be settled. In all my observations since 1845, I do not remember a single case in which the blight appeared above ground before the blotch on the tap root occurred; but many, where the root was blotched and even ulcerated, whilst the plant above ground, remained green and vigorous, so long as it was favored by fine weather.—*J. Prideaux.*

Bran as a Manure for Turnips.—I tried bran, and it failed most completely; the first year it was used in the original dryness, the second year it was steeped in water, and afterwards mixed and dried with quicklime. In both cases, the bulk of bran formed a damp mouldy consistence, in which the seed vegetated, but never pushed beyond the lump, and not one plant ever braided. Maggots were numerous. The circumstance puzzles me very much, having read the success of bran in Mr. Blackie's Cyclopaedia.—*Gardeners' Chronicle.*

The American Churn.—My experience differs so widely from the advertised testimonials, that I am very curious to learn what has been the case with others who have tried the American churn. My dairymaid has had a six-pound churn in use for the last month, perhaps ten or twelve churnings, under the most favorable circumstances, at 58° or 60°. The butter has never come in less than 17 minutes, usually in about 18, and once it did not come in less than three quarters of an hour; while the advertised testimonials state a much shorter time, namely, from 12 minutes even to 4 minutes.—*Ibid.*

Annual Show of the English Agricultural Society.—This was held at the old city of Exeter, on the 16th 17th, and 18th July. We are in receipt of letters from several of our friends who were present, giving full details of the show; but being of too great length to copy in

full, we condense what is most important from them.

Of implements, there were 118 exhibitors, and about \$2,000 distributed in prizes for them. The variety of them is much greater than with us; there were some which are not shown at all at our agricultural societies' exhibitions. Among the most important of these were steam engines, fire engines, ditching plows, tile machines, clod crushers, and portable farm railways. A four-horse steam engine on its best trial, threshed out 480 bushels of wheat in a single day, at one fourth the cost of horse labor.

Of cattle, the show was very fine in Herefords, and numerous as to Devons, Exeter being the home of this beautiful breed of animals. In other stock, it was only moderate.

The American ministers to England and France, Messrs. Lawrence and Rives were present, and each made an excellent speech. They were received with great applause. Among other Americans present, we notice Mr. Lewis G. Morris, of Westchester, N. Y., Mr. Taintor, of Hartford, Ct., and Mr. Gordon, of Virginia.

A Venerable Tortoise.—A large land tortoise has been brought home by the Geyser stean sloop from the Cape of Good Hope, as a present for her Majesty, and was placed in Buckingham Gardens on Monday. The tortoise is in remarkably good health, and during the voyage it took its regular promenades upon deck, making no apparent difference in its walks, although a full-grown person sat on its back. Its age has been handed down in the families in whose possession it remained until sent to this country; and it is thereby known to be 179 years old. It subsisted during the voyage, on pumpkins.—*London Newspaper.*

Coconut Sugar.—Ceylon newspapers mention a new source of sugar, as likely to be of importance to that colony. The sugar is obtained by cutting off the coconut flower stem, attaching a vessel to it, and evaporating the liquid; it flows over in quantities so great as to be almost incredible, and I have seen samples of the sugar equal to anything ever obtained from the sugar cane, and produced in such abundance from a tree as to promise immense returns yearly to the owner of it. Would you kindly state your opinion as to the chances of a tree so bled, living in health any length of time. [A coconut tree comes to full bearing in seven years, and will continue in vigor for 70 to 100 years in Ceylon, producing from 100 to 300 nuts yearly. We should imagine a tree so tapped would live but a very few years].—*Agricultural Gazette.*

Preservation of Green Kidney Beans.—The following is the process employed by M. Gehen de Montigny, for the preservation of green kidney beans:—In fine weather, gather the pods, before the seeds are too visible; take the threads off, plunge the pods in boiling water, and then take them out immediately; let them cool, put them in a tub in layers five inches deep, alternating with vine leaves, which must begin and end the series; on the top of the last layer of vine leaves, put a stone heavy enough to keep the whole well pressed. Then pour in some salt water until the top is covered; replace the water as it evaporates. The beans can thus be preserved quite fresh.—*Flore des Serres.*

Root Pruning.—Pear trees, which are three or four inches in diameter, a few inches from the ground, and growing luxuriantly, should have a trench opened round them about 4½ feet from the stem, and as deep as the roots go. Cut all very strong roots, which are going down into the subsoil, with a strong chisel; and, in filling the trench, add some fresh, turfy loam. Let the ground round the tree be thoroughly watered a few hours before the trench is opened; this will soften the soil, and very much facilitate the operation.—*Gardeners' Chronicle.*

Editors' Table.

TIME OF HOLDING ANNUAL FAIRS.—The following shows the times and places the principal fairs are to be held in the United States:—

New-York State Agricultural Society, at Albany, September 3, 4, 5, 6.

Massachusetts Charitable and Mechanics' Association, at Boston, September 11.

Ohio State Fair, at Cincinnati, September 11, 12, 13.

American Pomological Congress, the same time and place as the last named above.

Maryland State Fair, at Baltimore, October 23, 24, 25.

Michigan State Fair, at Ann Arbor, September 25, 26, 27.

Rhode-Island State Fair, at Providence, September 18, 19, 20.

New-Hampshire State Fair, at Concord, first week in October.

Canada-West Annual Fair, at Niagara, September 18, 19, 20.

Fair of the American Institute, city of New York, commencing the 1st of October, and continues for three weeks. Plowing and Spading Matches, at Tarrytown, October 11. Cattle Show, corner of 5th Avenue and 23d streets, October 16, 17, 18.

AN IMPORTED DURHAM BULL.—When we visited the beautiful place of Lorillard Spencer Esq., at Westchester, last month, among other things we had the pleasure of examining there, we noted a fine Durham bull recently brought over from England by Captain Morgan, in the ship Southampton. This bull is a rich strawberry roan, past a year old, large of his age, and a hardy animal. We have no doubt he will prove of great benefit to the stock of the country. We are very glad to see gentlemen of the good taste of Mr. Spencer, engaged in the importation and breeding of fine stock, and we trust that others in his neighborhood, who can so well afford the luxury, will make haste to copy his praiseworthy example. Westchester was the foremost county in this state to engage in the improvement of stock, its first importation having been made by Mr. Heaton as early as 1791. We trust the good old county will continue to keep up to its ancient renown.

IMPORTATION OF ALDERNEY CATTLE.—Nine cows and one bull arrived here on the 17th of August, in the ship *Splendid*, from Havre. They were selected from the best stock in the Isle of Jersey, by Mr. John A. Taintor, of Hartford, Ct., and are designed for himself, and Mr. Daniel Buck, Jr., of the same place. This breed of cattle is famous for their rich milk, it averaging, usually, from 20 to 25 per cent. of cream. We shall make a visit to Mr. Taintor soon, and will then give a full account of this stock. Suffice it for the present to add, that they are genuine, thorough-bred Alderneys, and look something like, and are about as handsome as a jenny, or female ass.

AN IMPORTATION OF SIX ALPACAS from Peru, has just been received at this port, by the steamer *Cherokee*. We understand they were intended as a present for the late General Taylor, but that two are now to be presented to Mr. Webster. The remainder, (one of which has just died from confinement in his close city quarters,) have another destination. They will admirably suit the Honorable Senator's Granite-Hill Farm in New Hampshire, but are ill adapted to his low, sea-girt acres, at Marshfield.

TRANSACTIONS OF THE NEW-YORK STATE AGRICULTURAL SOCIETY, FOR 1849.—This yearly document, so much sought after and read by so large a number of

our readers, is quite as voluminous, and as handsomely illustrated as in the years preceding. It is replete with useful matter interesting to the farmers of this, as well as of all the United States, particularly as it contains the entire lectures of Professor James F. W. Johnston, "On the General Relations which Science bears to Practical Agriculture," as delivered before said Society in January last. We are happy to announce that these lectures are about to be published by C. M. Saxton, of this city, with Notes, a work which doubtless may be read with profit and advantage by every farmer and planter in the Union.

GREAT HAY CROP.—Mr. R. L. Colt, of Paterson, N. J., informs us that he cut 47,560 lbs. of hay in July from 6½ acres, and he thinks he could now cut about 6,000 lbs. more, as a second crop. This is about equal to Mr. Clapp's great crop, mentioned at page 242 of our last number; 7 acres and 100 rods there gave 29 tons and 497 lbs.

COTTON GRASSHOPPER.—A planter in this neighborhood informed us, a day or two since, that immense quantities of variously-colored grasshoppers are depredating on the cotton fields south and east of this place. Such an irruption has never been known before. The ravages of the insect are represented as being seriously destructive.—*Chambers' Tribune (Lafayette, Ala.)*

VALUE OF THE BANANA AS HUMAN FOOD.—It is doubted by Baron Humboldt whether there is any other plant on the globe, which, in so small a space of ground can produce so great a mass of nutriment. Eight or nine months after the sucker has been inserted in the earth, the banana begins to form its clusters, and the fruit may be gathered in less than a year. A spot of 1,076 square feet may contain at least from 80 to 40 plants, which, in the space of a year, at a very moderate calculation, will yield more than 4,410 lbs. avoirdupois, of nutritive substance. The produce of the banana is to that of wheat as 133 to 1, and to that of potatoes as 44 to 1.

NEW PROCESS OF MILKING.—The India-rubber man has got hold of the cow's udder at last. He seems to lay hold of everything with an almost universal grasp. We have seen *Knapp's patent cow milker*, which is to be clapped on each of the teats separately, and by drawing a young piston from the sack, enclosing the teat, Presto! down comes the milk incontinently, till the whole strippings are drawn.

We opine this operation is akin to the straw milkers, so much in vogue among experimenters a few years since. The difference is, that the rubbers cost \$4 each, while the straw costs nothing but the cutting; but the former does not injure the teat, while the latter produces irritation and sores. The similarity will probably be found in their mutual worthlessness.

SINGULAR AMALGAMATION.—A friend left at our office a few days since, what may be considered, so far as our knowledge extends, a production peculiar to Minnesota. It was a grub worm, apparently of the ordinary species, from the head of which had sprouted a plant some three inches in length. Both animal and vegetable life had become extinct, when we first saw it, though vitality, clearly existed in each, when taken out of the ground. We understand that this species of production is not uncommon in the vicinity of Point Douglass, where this was found. The weeds springing from the head of the worm grow to the height of two or three feet, the legs of the insect meantime distending themselves into the earth in the shape of roots. Animal life remains apparent until the vegetable shoot, above ground, is killed by a change of season; but whether a crop of grubs is produced in the way of seeds, we are not advised. What can't we grow in Minnesota?—*St. Paul (Min.) Chronicle*. [Who believes this? We do not.—Eds.]

Review of the Market.

PRICES CURRENT IN NEW YORK, AUGUST 14, 1850.

ASHES, Pot., 100 lbs.	\$6.12	@	\$6.19
Pearl, " do.	6.00	"	6.12
RALE ROPE, " lb.	9	"	11
BARK, Quercitron, " ton.	39.00	"	41.00
BEANS, White, " bushel.	75	"	1.25
BEESEWAX, American, Yellow, " lb.	20	"	26
BOLT ROPE, " " "	10	"	11
BONES, Ground, " bushel.	45	"	55
BRISTLES, American, " lb.	25	"	25
BUTTER, Table, " " "	9	"	15
Shipping, " " "	10	"	13
CANDLES, Mould, Tallow, " " "	25	"	47
Sperm, " " "	25	"	30
Stearine, " " "	5	"	10
CHEESE, " " "	5.00	"	6.00
COAL, Anthracite, 2,000 lbs.	11	"	13
CORDAGE, American, " lb.	10	"	15
COTTON, " " "	15	"	16
COTTON BAGGING, Am. hemp, " yard.	27	"	35
FEATHERS, " lb.	8	"	9
FLAX, American, " " "	4.25	"	5.75
FLOUR, Ordinary, " bbl.	6.00	"	6.50
Fancy, " " "	6.50	"	6.75
Richmond City Mills, " " "	2.75	"	3.00
Buckwheel, " " "	1.60	"	1.40
Rye, " " "	80	"	1.00
GRAIN—Wheat, Western, " bushel.	62	"	64
" Red and Mixed, " " "	63	"	66
Rye, " " "	59	"	63
Corn, Northern, " " "	60	"	65
" Southern, " " "	39	"	45
Barley, " " "	50.00	"	50.00
Oats, " " "	35.00	"	40.00
GUANO, Peruvian, 2,000 lbs.	50	"	60
Patagonian, " do.	200.00	"	205.00
HAY, in Bales, " 100 lbs.	160.00	"	200.00
HEMP, Russia, Clean, " ton.	140.00	"	175.00
American, Water-rotted, " " "	9	"	10 1/2
" Dew-rotted, " " "	18	"	18
HIDES, Southern, Dry, " lb.	2.00	"	10.00
HOPS, " " "	4.38	"	4.75
HORNS, " 100 lbs.	5	"	7
LEAD, Pig, " lb.	2.75	"	3.25
Pipes for Pumps, &c., " bbl.	22	"	30
MEAL, Corn, " " "	7	"	10
MOLASSES, New-Orleans, " gallon.	1.50	"	1.75
MUSTARD, American, " lb.	1.25	"	1.75
NAVAL STORES—Tar, " bbl.	1.35	"	1.30
Pitch, " " "	2.44	"	2.75
Rosin, " " "	30	"	33
Turpentine, " " "	73	"	77
Spirits of Turpentine, " gallon.	1.60	"	1.75
OIL, Linedseed, American, " " "	58	"	65
Castor, " " "	1.25	"	1.50
Lard, " " "	75	"	1.25
OIL CAKE, " 100 lbs.	2.00	"	2.25
PEAS, Field, " bushel.	2.00	"	2.75
Black-eyed, " 2	1.12	"	1.25
PLASTER OF PARIS, " ton.	8.00	"	10.00
Ground, in Barrels of 300 lbs.	5.00	"	7.50
PROVISIONS—Beef, Mess, " bbl.	6	"	12
" Prime, " lb.	6	"	6
" Smoked, " " "	10.00	"	12.00
" Rounds, in Pickle, " bbl.	6.50	"	10.00
Pork, Mess, " " "	6	"	7
" Prime, " lb.	3	"	4 1/2
Lard, " " "	3	"	4
Bacon Sides, Smoked, " " "	5	"	9
" in Pickle, " " "	4	"	7
Hams, Smoked, " " "	4	"	6
" Pickled, " " "	3	"	5
Shoulders, Smoked, " " "	2.25	"	3.75
" Pickled, " " "	1.25	"	1.50
RICE, " 100 lbs.	20	"	35
SALT, " sack.	6 1/2	"	9
" Common, " bushel.	2.00	"	3.50
SEEDS—Clover, " lb.	1.60	"	1.65
Timothy, " bushel.	3	"	—
Flax, Clean, " " "	1	"	—
SODA, Ash, (80 per cent. soda.), " lb.	5	"	7
Sulphate Soda, Ground, " " "	35.00	"	37.00
SUGAR, New-Orleans, " ton.	6	"	7
SUMACH, American, " lb.	3	"	11
TALLOW, " " "	15	"	20
TOBACCO, " " "	15	"	20
Eastern, Seed-leaf, " " "	35	"	60
Florida Wrappers, " " "	40	"	67
WHISKEY, American, " gallon.	40	"	50
WOOLS, Saxony, " lb.	35	"	40
Merino, " " "	30	"	35
Grade Merino, " " "	20	"	30
Common, " " "	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—2,000 beef cattle 1,400 southern, balance state; 8,300 sheep and lambs, 100 cows and calves.

Beef.—The market has been rather heavy, with sales at \$6 to \$7.50 per cwt., closing dull; 500 head unsold.

Cows and Calves.—The sales of the past week have not been very brisk; prices have ranged at \$20 to \$40, at which the market has been swept clean.

Sheep and Lambs.—Market quite active, and our quotations fully supported. Sheep have brought \$1.50 to \$4.50; lambs sold quick at \$1 to \$3; unsold, 300.

August 13.

REMARKS.—No change of any moment in the market since our last.

The Weather has continued very fine since our last. Corn, roots, and grass are growing rapidly, and promise abundant crops. Wheat and all the small grains have generally been well secured, and turn out better than was anticipated. Cotton, Rice, Sugar, Hemp, and Tobacco are doing well.

TO CORRESPONDENTS.—Communications have been received from T. B. Miner, D. J. Fluker, L. Durand, F. J. L., Edward Egan, and Thomas B. Coursey.

ACKNOWLEDGMENTS.—Journal of the New-Brunswick, (N. B.) Society for the Encouragement of Agriculture, Home Manufactures, and Commerce throughout the Province, instituted at Frederickton, Aug. 30th, 1849; also the List of Premiums of the Cayuga-County Agricultural and Horticultural Society, for 1850, from J. B. Dill, Esq.

NEW-ORLEANS AGRICULTURAL Ware house, comprising a large assortment of Plows, Harrows, Cultivators, Fanning Mills, Corn Shellers, Corn and Cob Crushers, Straw Cutters, Ox Shovels, Ox Yokes, Grain Threshers, Corn Mills, Axes, Hoes, Shovels, and other Agricultural Implements. Also, Gardening Tools, Guano, Plaster, Rock Salt, &c. &c. Orders will be executed for every article wanted by Planters.

in it GEO. W. SIZER, cor. of Magazine and Poydras sts.

NEW-EXFORDSHIRE LONG-WOOLLED Bucks for sale.—The subscriber has about 40 Long-wooled Bucks, which he will dispose of at any time when called for. This flock, which has been bred from some of the best ever imported, is so well known that they need no further description than to say that they continue to yield their very heavy fleeces—from 9 to 16 lbs. of washed wool; and when full fattened, will weigh upwards of 300 lbs. alive. This breed of sheep is remarkably healthy, very prolific, and make a profitable cross with the various breeds of this country, doubling their weight of wool and mutton. The price will be from \$50 to \$75 for Bucks, and \$25 to \$30 for Ewes, according to their quality. Gentlemen are invited to call and see for themselves, or communicate by mail.

By 4t

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HARPER'S NEW MONTHLY MAGAZINE.—The publishers beg to reassure the readers of the New Monthly Magazine that the favor it meets shall be used to increase its merits, and to add to its interest and its usefulness. Still greater care will be exercised to publish in its pages nothing that is not, in point of ability, of interest, and especially in regard to its moral influence, far above mediocrity. Not a paragraph shall ever be found in it which may not be read by a mother to her daughters, or by any one in any circle, without the slightest offense to the most refined delicacy of sentiment and of taste. Retention of attention will be given to the illustrations of the successive numbers; and no expense will be spared to make them attractive.

A new feature of the Magazine, which will be regularly maintained, will be copious extracts from English books, in advance of their publication, for which the publishers have peculiar facilities in the receipt of early sheets. A monthly summary of domestic, as well as of foreign events, comprising all the political, literary, and scientific incidents of the current month, will also be given in each successive issue.

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PROPERTY LAND SALE.—Will be sold on the 14th

day of October next, (being Monday of October Superior Court for Perquimans County,) before the Court House door in the town of Hertford, the lands belonging to the late Edmund B. Skinner, deceased, lying on the south-west side of Perquimans River, between that river and Menzis Creek, in the part of the county known as Harvey's Neck. The tract known as the Home Place contains 360 acres more or less, 205 of which are cleared, and in a fine state of cultivation. The fences around and on the plantation are good and in good order. The buildings are many of them, new, and all are in good order. The dwelling house, nearly new, is large and commodious, there are two cisterns, built of brick and cement, with filters. One other tract, known as the Lanston and Parsons land, adjoining the above described tract, contains 657 acres, of which 270 are cleared, and in a fine state of cultivation. Both said tracts are situated on the river.

Terms are one and two years credit, with interest from 1st day of January, 1851. Bonds, with approved security will be required of the purchaser. E. F. SMITH, C. M. E. Hertford, N. C., July 16, 1850. sept. 2t

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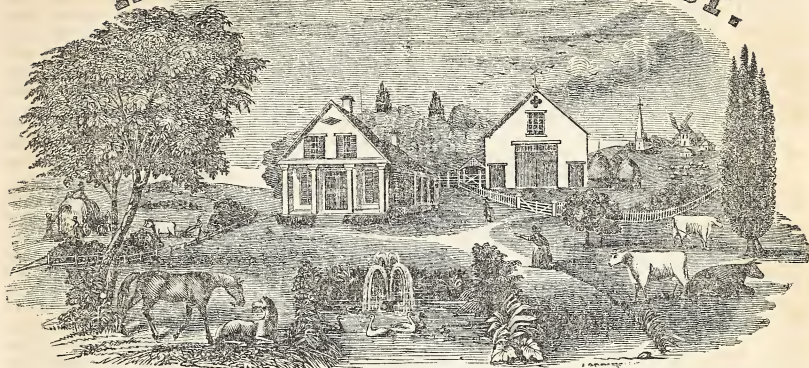
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. IX.

NEW YORK, OCTOBER, 1850.

NO. X.

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THE TRAVELLER.—No. 3.

LEAVING Wilmington, Delaware, in a southerly direction, we cross Christiana Creek, which is navigable for vessels of godly size, some of which I noticed unloading lime here, and at the villages of Newport and Christiana, above, as within a few years the use of this great improver of the soil has become of vast importance to this state. The flats along this stream are broad, partially-reclaimed marshes, and esteemed very valuable. The face of the country, south of the creek, exhibits no rocks and hills of any magnitude, most of the land on the whole peninsula being less than 100 feet elevation above tide water, and much of it not a fourth of that. The largest part of the soil is sandy loam, originally fertile, easily cultivated, and easily worn out, which has been done in numerous instances most effectually, until some of the old proprietors, unable to live longer upon "the skinning system," have given place to men of more enlightened minds; and now it may be said with truth that no county in the United States can show a larger proportion of good farms, nor a better and more improving system of agriculture, nor a more enlightened community than New-Castle county.

Hedges.—There is probably more land fenced with hedges, principally of New-Castle thorn, in this county, than any other in the United States. If kept well trimmed, at a great expense of labor, it certainly makes a very handsome fence, and against cattle and sheep, is somewhat of a barrier. That is to say, if your stock is in a good clover field, such as abound there in great luxuriance, they will not go through the hedge unless they are a very mischievous breed. Major John Jones, a very shrewd farmer, says that "hedge is a good fence with five rails and posts upon one side, and five boards and posts, or a good ditch on the other, to keep the hogs and cattle off, until it gets grown, say five or six years, as browsing spoils the young plants. After that, you may take away the fence on the field side, if you are careful never to turn any stock into the field." To this extravagant notion of Major Jones must every impartial observer come at last; for if the thorns are neglected a few years, they grow into a row of trees absolutely worthless, as a fence, and even with most careful trimming, they die and form gaps or thin spots, through which cattle push their way whenever they desire. As a fence against swine, nobody pretends it is good for anything.

Devon Cattle.—One of the handsomest herds of this valuable breed of cattle in Delaware, or perhaps south of New York, is owned by Mr. C. P. Holcomb, whose farm is near New Castle, and is well worthy a visit from any one curious to see how much science and intelligence has the advantage over mere bodily strength in the renovation of a worn-out soil. Mr. H. retired a few years ago, on account of bad health, from the Philadelphia bar, and purchased this farm, which long years of constant cropping and shallow plowing had so impoverished, that such a herd of cattle as now fatten upon these rich

pastures, would then have starved to death. The principal source of fertility and improvement has been sought after in the soil, a few inches below where the former occupant had never looked. To this has been added lime, which has given the most luxuriant return of wheat, clover, Timothy, and Indian corn, until now, a stranger who views the crops, stock, barns, and general condition of the place, can hardly comprehend that a few years ago, it was barely able to support a few scrub cattle and feed the laborers that were striving to glean a scanty support from the old impoverished fields.

Major Holcomb gives the average of his cows during summer, at 16 quarts of milk a-day, and that averages one pound of butter. One cow averaged 22 quarts, which made two pounds of butter a-day for some weeks; but this indicates an unusual richness of milk, as well as large quantity. The common estimate of quantity of milk required upon a general average, among cows, to make a pound of butter, is 15 quarts; but I am of opinion that 18 quarts would be nearer the truth. Major H. estimates his cows to average 5 quarts a-day through the year, which will give 114 pounds of butter per annum to the cow, although that is below the average of some herds. I believe it is much above the general average of the United States.

Major H. has some working oxen so large and handsome that they might be exhibited in some places further south, as natural curiosities; and in comparison with the "piney-woods oxen," of North Carolina and some other states I could name, they would pass for a newly-discovered breed of horned elephants. He sells all his choice male calves for breeders, at moderate prices, and is thus disseminating the good qualities of this stock, and greatly benefitting his agricultural brethren, at the same time he is reaping his reward in a fair profit upon investments and liberal expenditures in improvements of stock, crops, and soil.

Major Holcomb raised 500 bushels of potatoes, upon two acres of clayey-loam soil, well manured and deep plowed; but does not consider it as an extraordinary crop, nor more than may be made upon any suitable soil, by a judicious system of cultivation. One man in the county made 500 bushels upon one acre. He dropped them in every furrow, one foot apart, and then covered the ground about a foot deep with straw.

The manner of carrying on farming, adopted by Major Holcomb, obviates a common objection of city gentlemen against engaging in the business, on account of the inconvenience of having farm laborers around the mansion house. He hires a farmer and wife, who reside at the farm house, taking charge of the dairy and providing for all the laborers, without any other trouble to the proprietor than the general superintendence, which he gives the whole business. If it should be objected that this will consume all the profits, I will undertake to prove to the contrary by an exhibit that will show a very handsome per centage gained upon the capital invested.

Neat Farming.—This may be seen in high perfection, upon the farm of Mr. Jackson, one of Major Holcomb's nearest neighbors. Hedges, too, trimmed and kept, with such care as he learned in his native English home to be necessary, may be seen upon this farm, and equal to any live one that I have ever seen, unless I except the Cherokee-rose hedges of Mississippi.

The beauty of the general appearance of this delightful farming neighborhood is very much blurred in consequence of the town of New Castle owning considerable tracts of land which lie wedged in among those of individuals, and which are rented upon short leases, to those who can make the most out of them by the smallest outlay of improvement. This American system of renting land only for one or two years, at a time, is one that must ever prevent tenants from improving, if it does not actually ruin the soil.

As these town lands cannot be sold, an enlightened policy would dictate that they should be let upon long leases, with such stipulations that they would not only become the most beautiful, but most productive farms in the state.

The Prince of Peach Growers, as Major Reybold has been called, lives in this county. It is said that he and his family realised \$30,000 in one year, from their extensive orchards. Certain it is that their industry, enterprise, and improvements have added hundreds of thousands of dollars' value to the neighborhood, where they have bid the earth bring forth its fruits, whereby the tillers thereof have been enabled to build themselves luxuriant mansions, and partake of such enjoyments of life as those who cultivate the soil are justly entitled.

New-Oxfordshire Sheep.—The most extensive and most superior flock of long-wooled sheep, perhaps, in this country, is owned by Mr. Clayton B. Reybold. He has fattened some wethers to weigh 300 pounds, and has often sheared fleeces of 10 or 12 pounds of clean wool, the quality of which is not, as is generally supposed, coarse and unfit for anything but blankets and carpets. There is very little difference between Oxford, Lincolnshire, Cotswold, and other names of all the long-wooled family. The difference is in the breeding and care of flocks. This flock is well kept and bred with care and skill.

Reclaiming Salt Marsh.—The Messrs. Reybold have made some attempts to reclaim the salt marshes along the Delaware, and have met with the same difficulty everywhere experienced; that is, sinking of the soil after two or three years' cultivation, by which it is impossible to drain it without mechanical means. As this is a perfectly natural effect, the same difficulty will occur. It is owing to the decay of the mass of fibrous roots that compose the marsh soil, and which remain entire and slowly growing so long as covered with water, but which decay and compact together as soon as the water is withdrawn. Many thousand dollars have been spent in draining marshes in the United States, which the owners were compelled to abandon after getting two or three crops. Wherever the value of such lands will warrant

the use of a steam draining machine, it will be worth while to drain them. Until such time, they may be used for pasture and coarse hay, but still more profitable for the manuring of upland with the inexhaustible supply of swamp mud which they afford.

The farm of the Hon. John M. Clayton is also in this county, on the railroad from New Castle to Frenchtown, and is most delightfully situated and neatly cultivated. May he be a happy Cincinnatus upon it. SOLON ROBINSON.

RESEARCHES ON THE SUGAR CANE.

THE following are the conclusions arrived at by Señor Casaseca, of the island of Cuba, in his researches on the sugar cane:—

First, that the white or Otaheitan cane degenerates on red and intermediate, (*mulâtres*,) soils, especially if they are to a certain extent run out. This sugar cane then becomes more woody and less sweet; nothing, then, but crystalline and ribbon canes ought to be set in such soils.

Second, that a serious error has been fallen into in all the analyses of the sugar cane made up to the present time; inasmuch as being made on variable quantities of cane, without any distinction as to the part of the plant analysed, they never give the true mean saccharine richness of the individual examined, and are thus very likely to mislead the planter.

Third, that to form an exact idea of the chemical composition of the sugar cane, it must be examined throughout its whole length. From such an examination it is found, 1. That, in the canes from Otaheite, the quantity of water increases in arithmetical progression from the bottom to the top of the plant; and that, if in the other species of sugar cane this is not rigidly exact, it is so nearly so as to lead one to infer that such a mathematical distribution of the water is an organic law in the sugar cane. 2. That the quantity of sugar is greater at the bottom than in any other part of the cane. Also, that the quantity diminishes as we approach the top of the lower third part of the cane's length; but if we take the mean quantity of the central third, and also of the upper third, we find that in them the quantities of sugar are nearly equal. It follows from this that, from and after the first appearance of the central third, the distribution of the sugar is nearly uniform. 3. That in the lower two thirds of the cane, the mean quantity of ligneous matter is pretty nearly the same; the same quantity, or very nearly so, being present in each of the lower and middle thirds; but in the upper third, it diminishes rapidly, as we get nearer the top; and it is for this reason that the mean quantity of woody matter in the upper third is much less than that of the two lower. 4. That the quantity of sugar in the middle third is pretty nearly the mean quantity in the whole cane. 5. That, if it were not for the knots, there would be, in certain cases, a constant proportion between the sugar and the woody matter throughout the whole length of the cane. 6. The knots do not, as asserted by M. Peligot, contain the same quantity of water as the rest

of the cane. There is a difference of nearly 4 per cent.; but if the water increases in arithmetical progression from the bottom to the top of the cane, the same is true with regard to the joints; for there is the same difference between the quantity of water in two joints at different heights, as there is in the two corresponding internodes of the stem. 7. That, in future, to estimate the value of a sugar cane, the middle third of its length must be analysed, since the quantity of sugar in this third indicates to a great degree of accuracy the mean saccharine richness of the entire cane. 8. That, if a planter knowing how to weigh, dry, and boil the sugar cane in water, either distilled or condensed in the steam engine belonging to the mill, would attend so the above rules, he might, by means of a simple calculation, consisting of nothing but the multiplication and division of decimals, always ascertain with sufficient accuracy the mean saccharine richness of any cane brought before him.—*Comptes Rendus.*

MASSACHUSETTS FARMING.—No. 1.

As a partial compensation for the benefit I have derived from reading your instructive periodical, I will give, through its columns, a brief statement of what some of us have been doing in the old Bay State, in the way of reclaiming wet meadows, hitherto deemed almost worthless. And, by the way, I am glad to see you have not been neglectful of this subject from time to time. I was no less gratified than amused, by Mr. Robinson's late cyphering up of the *debit* and *credit* of the "Old Pond Meadow" of a neighboring state. He does not spare the task at the neglect of ignorant and slothful farmers; but the locality might with justice be altered, to suit almost ever latitude and longitude of the United States. Your waggish correspondent, Sergeant Teltrue, I perceive has also "charged bagonets" manfully in behalf of the neglected swamps; and among you all, I am of opinion that ere long, they will be forced to *surrender at discretion*.

Much improvement has been effected in Massachusetts farming of late years, a considerable part of this result, being, in my opinion, attributable to the higher prices of agricultural staples, and especially fruits, vegetables, milk, butter, poultry, eggs, &c., which the large number of manufacturing establishments among us has mainly induced. Our fields are better manured; many substances formerly thrown away or totally neglected, such as the waste of tanneries, woolen and other manufactories, the offal of slaughterhouses, seaweed, peat, swamp muck, plaster, &c., have been carefully saved, composted, and applied to our crops. A more thorough cultivation has been introduced, from the use of the best turning and subsoil plows, cultivators, and other implements, which have pulverised the ground more effectually, and at a cheaper rate than formerly. The adaptation of crops to particular soils, choice varieties of seed, rotation of crops, and other improvements, the introduction of some of the best specimens of

cattle, sheep, swine, and poultry, (the last, no inconsiderable item, I assure you, when they and eggs bear the high price they usually command in our markets,) have all had their full share in the result.

There has also been great attention paid to fruits of late years; and you would be surprised to witness, on our rugged soil and adverse climate, the magnificent specimens of almost every variety of fruit indigenous to the temperate zone, or acclimatised in it, which we raise. Dense as our population is, and much as we frequently import from other states, we yet occasionally send choice apples, such as the Baldwin and russet, to Europe, the East and West Indies, South America, and other countries. We justly boast of our choice grapes, some of the finest kinds of which we raise in considerable quantities, and at a comparative trifling outlay. Many of these products may be considered as matters of luxury and of no practical value in an economical or statistical point of view, as they are consumed by the producers. But such as have money, would probably have otherwise laid it out for luxuries from abroad, while, by this means, they have distributed it among their more necessitous neighbors, mechanics, and laborers at home, and such of the farmers as are disposed to make it exclusively a money business, can, at any moment, convert their finest fruits into ready cash, by sending them to a quick market, which many of them do with great advantage to their purses.

But I find I have already written you so much, though only in a general way, that I must defer till my next, some peculiarities in our system, which was the main purpose I had in view in sitting down to write.

F. J. S.

Middlesex Co., Mass., Sept. 15th, 1850.

ADVANTAGES OF DRILLING WHEAT.—The advantages claimed for drill culture, in the Transactions of the New-York State Agricultural Society, are as follows:—

1. *A Saving of Seed.*—Five pecks of wheat drilled in is equal to two bushels sowed broadcast; every kernel is neatly covered at a uniform depth.

2. *A Saving of Labor.*—Any person that can manage a team can complete, in the neatest manner, from ten to fifteen acres per day.

3. *An Increase of Crop.*—Small ridges of earth are left between the rows of wheat, which, by the action of the frost, slides down and covers the roots, thereby preventing "winter killing." Light and heat are admitted between the rows and prevent injury by rust. A vigorous growth is given to the young plant, and its position in a constantly moist place, prevents injury from drouth.

FALL PLOWING.—All stiff, clayey lands, intended for spring crops, may be plowed this month, when the earth is neither too wet nor too dry. If plowed at the right time, and subjected to the winter frosts, the texture of the soil will be greatly improved.

POULTRY RAISING.—No. 3.

As I intimated in my last number, that a fortune may be made in the business of extensive poultry raising, I will now proceed to lay the plan before the public, as many persons are interested in this branch of domestic employment.

To keep a large number of fowls, so that they shall be equally as profitable in the ratio of numbers, as a small number, where such small number have a large range, is *impossible*. Here, at the onset, is a damper to the feelings of those engaged, or about to engage, in the business; but I cannot help it. I am going to give you what I consider to be facts in the premises, and if my assertions can be controverted, I hope that I shall not be spared. If I give not facts, let others show wherein I err, and let us have this question decided, namely, "Is it practicable to keep fowls *profitably* on a large scale? What I mean by a *large scale*, is keeping not less than 500 laying hens, to be increased to several thousands, in the same ratio of profit.

By purchasing all the food required for fowls, I have proved to my satisfaction that it is a very poor, unsafe business to embark in; but where one raises certain kinds of food expressly for them, having a small farm for that purpose, my views are very different. And here I would observe, that to think of going into this business first, by obtaining some of the numerous foreign breeds of fowls among us, that are recommended as "great layers," and then rear a stock from such breeds, is useless. Let people say what they may about this or that breed for laying, I do not believe that there is any foreign breed of fowls in existence so good for extensive breeding and laying, as some of our domestic kinds. The present great outcry about particular "highly valuable breeds," is of about the same relative importance as the great noise made some years ago about the *Morus multicaulis*, that ended in smoke. Again, the in-and-in breeding that it would require to keep any favorite breed pure, would soon produce their ruin. [Indeed! Where are your facts.—Ens.]

Now to my subject. You want about 25 acres of good land, five of which are well enclosed with a close board fence five feet high—no pickets. Every fowl must have one wing clipped. A shed should then be constructed around the entire five acres, the board fence forming the back of said shed. This shed may have a roof of boards six feet in length, and the entire line of front to be closed in with a glass window every twenty feet, at least, and a door, say every forty feet. At the back side of this shed, a single row of nest boxes should extend the whole length, so constructed that the hens will be out of sight, as the person in attendance passes along in front, opposite the boxes, and only about a foot from the ground. Perch poles should be placed the whole length, also—only one continuous perch, because in the centre of the enclosure, the building containing their food, should be placed, containing all necessary conveniences.

The great difficulty in keeping large numbers of fowls successfully, is their coming into

too close contact with each other, and especially in roosting. The healthiest fowls are those that have no shelter at night save the canopy of the heavens. Who ever saw a diseased fowl that had always lodged in the branches of trees? Now, we must obviate close proximity, and hence, I recommend the single, continuous perch. In the warm season, the sheds should be well ventilated—doors and windows kept constantly open. A rear ventilation should also be effected by grated windows, as near as every twenty feet, at least. The perch should be placed low, as the foul air, caused by respiration, is the better carried away, so that it is not received into the lungs a second time. The dung should be removed often, and lime and ashes strewn upon the ground in the sheds. The entire inside to be well whitewashed, and the outside would be better by being served in the same manner. One or two acres of this enclosure should be plowed up as often as once a week, from April to December, to afford worms for the fowls—the balance to be in grass. The number of fowls that can be kept in such an enclosure, and all roost on the continuous perch, allowing one foot for each, is about 1,900; but fowls do not actually require over six of eight inches.

A stream of water should run through the yard, and a load of ashes, old mortar, charcoal, and gravel should be placed at convenient distances. An infirmary must be constructed at a distance, for sickly fowls, so that they may be separated in small numbers. At evening, once a week, every fowl should be examined on the perches, and any illness may be detected by the dullness of the eye, or the lightness of the body, and any not in perfect health, to be immediately removed. Here lies a serious danger: There are many diseases that are contagious among fowls, and a few days are sufficient to spread desolation in the best poultry yards in the country.

The food of fowls must comprise Indian corn, and oats to some extent, as a daily fare; besides these grains, we may feed them on what costs the least. Potatoes are my fare, and it is only through the cheapness of this root and the ruta baga, that I am enabled to say that I am truly of the opinion that a fortune can be made in raising poultry. Aside from the foregoing kinds of food, fowls must have flesh, in some shape. If you cannot turn worms out of the earth for them, you must get the offal from the butcher. There is no use to attempt to get along without it.

It is not on every 25 acres of land that I say 2,000 fowls can be kept to advantage. It must be a soil that will usually produce from 200 to 300 bushels of potatoes per acre. In Oneida county, we do this without a pound of manure. 2,000 hens will produce annually, 150,000 eggs, worth \$1,500, taking all seasons into account. This estimate is based solely on laying eggs. The profit on chickens may be considerable, if the location be near a large city. The next point is, what will it cost to feed these fowls. To buy grain, it will cost the price of 1,000 bushels of corn, and the same of oats, say

\$1,000. But, on the potato and ruta-baga diet, (boiled and mixed with meal,) the cost may be reduced to \$500, the actual cost of cultivation on rich soil. This leaves \$1,000 profit, out of which comes the losses by disease, use of land, &c. Every third year, the entire stock must be removed. But the fowls will bring, in New York, much more than the cost of raising. The feathers will be worth considerable, also. A small fortune is all that I can promise to the poultry raiser, on the above plan; yet, I believe it sure.

T. B. MINER.

Clinton, Oneida Co., N. Y., 1850.

RAISING POTATOES FROM THE BALL.

I took the seed in the fall, put them in paper, and kept them in a dry place. The 1st of April, 1847, I planted the seed in fine, rich earth in a box in the house, kept them there until the 10th of June, occasionally in the open air, but not under glass, as I had not prepared the means to force them, which I think would be desirable to gain time and size. I then, June 10th, planted them in the open ground. I protected the vines the first year from frost, to obtain a longer season until the 1st of November. On digging them, I found some as large as hens' eggs, the largest portion smaller. They produced seven varieties such as I now give you:—One like the English red; two like long and round pink eyes; one like the pink eyes, but no red in the eye; one like the dark purple; one like the blue; and one like the lady finger, of large size. The second year, 1848, I planted the seed raised, like other potatoes, but in rich earth, but did not protect them in the fall to increase the growth. The vines were killed before they were entirely mature. I dug them the 20th of October, when they were the usual size of potatoes. This year, the vines were killed by the frost as early as the 2d of October, when they were green and growing vigorously, and I believe they would have been larger. They were dug the 10th of October. One weighed 1 lb. 10 oz.; twelve others, 12 lbs. 10 oz. The long potatoes are more mealy at one end than the other, which shows they have not their full growth. I do not know the kind of potato from which the seed from the ball was obtained.

The land, half an acre, was a pasture; plowed once, 1st of May, 1848; carried on eight loads manure from the cow stalls, and eight loads of leached ashes, spread them even, then dragged it well, planted corn about May 10th, had a good crop on the half acre, plowed it in the fall, about May 12th, 1849, plowed, dragged, and planted the half acre without any manure. The soil is fine sandy loam, land rolling, very mellow. The following is the expense of cultivation:—Plowing and tilling the ground, \$1.50; seed, six bushels, \$3; planting, \$1.50; hoeing, \$1.50; digging will cost about \$3; also, half a barrel of plaster, when up, \$1, making the whole expense, \$10. I am confident that the half acre will yield at least 230 bushels, which, at four shillings the bushel, is

Expense of cultivation,	10
Which leaves a balance of	\$105

I am confident I could easily sell the potatoes for the above sum, which would be the nice sum of \$210 per acre, for use of land and small capital invested.

The following particulars, I consider to be important in the cultivation of potatoes:—I plowed the land six inches deep; planted the potatoes three inches deep, leaving the hills level with the earth, and I planted the rows three feet apart, and the hills two feet from centre to centre, making 44 hills to the square rod, which gives 7,480 hills per acre. Allowing 14 hills for a bushel, (as some of mine yielded,) gives 500 bushels to the acre. I fully believe that if I had seed from the balls, sufficient to have planted an acre, and cultivated them, as I did what I planted, they would have produced at least 500 bushels this season. My land is mellow; did not plow between the rows, but hoed the weeds up, leaving the hills nearly level with the top of the ground until the potatoes grew and then raised the hills above the level. I believe the usual way of plowing deep between the rows of corn or potatoes is a bad practice, especially in dry seasons; a small cultivator is much preferable.—*N. Y. State Transactions.*

AARON KILLAM.

Mexico, Oswego Co., 1849.

ROGUERY IN GUANO—QUANTITY IMPORTED INTO GREAT BRITAIN IN 1849.—The amount of Peruvian guano imported into England during the year 1849, according to parliamentary return, was 73,567 tons. But, large as this amount is, the consumption was more than three times that quantity of *quasi guano*. The uninitiated and simple-minded may inquire "How is this?" notwithstanding there were no accumulated stocks on hand. The Gardeners' Chronicle solves this necromancy, by stating that they have the names of ten firms in London, alone, each of which is extensively engaged in the *manufacture of guano*. One of these takes 30 tons of loam per week, which comes into their laboratory, simple earth, but goes out genuine guano. Such is the gullibility of the Old World. Is there any of the same kind in the New?

NEW AND ECONOMICAL MODE OF FORCING VEGETABLES.—It has been suggested by a foreign paper, that the waste steam of manufactories may be advantageously applied to the roots of plants; and without any expense for artificial heat, large quantities of tropical fruits and vegetables may be raised at all times, besides such of our own, as we can otherwise have in perfection, only during the summer months. A series of common draining tile, laid within suitable distances underneath properly-prepared beds, containing the plants, which should admit or shut off the exhausted steam by cocks, would be all that is necessary for the underground arrangements. Moisture would be thus communicated as well as heat, and a slight covering of wood, or brick, and glass, to protect the plants from frosts or cold air, would be all that is essential to securing the most prolific growth.

PREMIUM BUTTER.

Statement of Nelson Van Ness, Mayville, Chautauque, verified by certificates of Ann Van Ness, Marcus Van Ness, and Lydia Van Ness, that the rules of the society had been complied with, and 221 lbs. of butter made in 30 successive days. Mr. Van Ness certifies that their statement is correct, and that the five cows, above mentioned, were owned by him one year previous to the time of trial, and that they were the common native breed of cows, and were fed with nothing put pasture during the whole of the trial (no grain, slops, nor roots, nor corn stalks were fed).

Weighted the milk on the 11th of June,	185 lbs.
Weighted on the 19th of June,	205
Again, on the 25th,	190
Weighted last, the 2d July,	167

Weight for four days, 747 lbs.

The milk was set in tin pans, and set from 36 to 48 hours, till it soured, then skimmed and churned every day, the butter put into the worker, till the buttermilk was freed from the butter, then salted with one ounce of salt to the pound of butter, then put into a bowl covered so as to exclude the air from it, and set in a cool place till the next day, then put into the butter worker, and worked till sufficiently dry, then packed into the tubs, all of the time taking care to keep it from the air as much as possible. The above cows were milked three times a-day; milk weighed about eight pounds to the gallon; the latter part of the trial, the weather became hot and dry, and reduced the amount of milk and butter; salt used from the Pacific Rock-Salt Company.

John Shattuck's Statement, Norwich, Chenango County, for the best 25 lbs., made in June, \$10 awarded. Keeps twenty cows. The milk is strained in tin pans as soon as drawn, and kept on racks in the milk room, until the cream is removed, which is always done in hot weather before any whey appears, and in cool weather, before the milk begins to turn bitter.

The cream is kept as cool as possible after it is taken from the milk, and the sooner it is churned, the better. Churns every morning in warm weather, tempering the cream with ice, so as to have it gather well and hard, when it is readily freed from the buttermilk. We use, in warm weather, ice water, to rinse the butter, when it is removed from the churn, the buttermilk worked out clean, and salted with ground rock salt, (about one pound to twenty pounds of butter,) and thoroughly worked, and set in a cool place about 24 hours; and again worked, so as entirely to free it from buttermilk, and packed in firkins, and covered tight, so as to exclude the air, until the firkin is filled. No other substance used in making butter. Cows kept on common pasture. The mode of keeping butter through the season is, as soon as a firkin is filled, to spread a cloth over the butter,

and cover it with a strong brine made of ground rock salt.—*Transactions of N. Y. State Agricultural Society.*

MISSISSIPPI PLANTING.

As soon as the human race have once acquired a habit of making enough meat and bread at home, you always see land improving in fertility by better culture and manure. I contend this will follow, because I see it where there is improvement so as to secure a fair cotton crop.

But why should cotton growers not improve their seed, as well as wheat or corn growers? Do we see fewer houses rearing, fewer carriages, and less comfort, when cotton is low, say at 8 cents, than years ago when we thought 12 cents was cheap—aye too low?

I contend that I can now raise eight bales of cotton as cheap as I did six, in 1830, with less labor, and give my laborers more play time. If this be so, I can then make as much at 12 cents, as I did at 16, or as 6 to 8. I do not say that Carolina can do so. But I will guarantee it, if they will get your best plows, your steel hoes, save their seed for manure, make all the manure they can, plow deep, and improve their seed by occasional purchases from the cotton region, and by selections from the field. I have done all this. If I can do it, why should not all? There are pieces of cotton that did, in 1849, produce 40 bales from 38 acres. David Gibson did so; whereas some did not grow, on some kind of land, 20 bales from similar quantity.

Colonel Vick, the man to whom is due more credit for his tenacity in improving seed, than any live man, grew nine bales per hand, in 1849, while many would brag on six bales. Even I, myself, can bring evidence from a very high source, that a part of my cotton had every appearance of growing on a part, 2,000 lbs. per acre, (once under bad culture,) and probably not two acres in the whole country, under garden culture, exceeded it. My friend Griffith, in this county, did grow, in '48 and '49, (all improved seed,) at the rate of 40 bales from about 35 acres—excellent culture. He grew more than he planted for.

Now I appeal to cotton growers. Think me interested or not. Are these statements not worth your candid examination?

M. W. PHILIPS.

Edward's Depot, Miss., Feb., 1850.

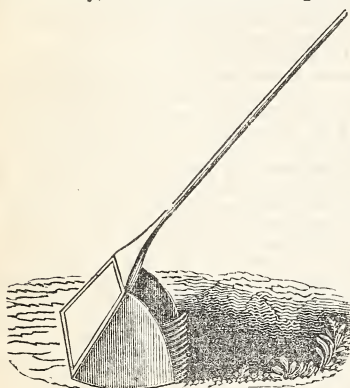
STORING SWEET POTATOES.

In the latter part of this month, or early in November, prepare for preserving sweet potatoes for winter and spring. Select a dry spot, level the ground, and lay down a bed of straw, so as to form a circle about six feet in diameter. On this straw, pile up the potatoes until they form a cone four or five feet high, over which spread a little dry grass or straw. Cover the entire cone with corn stalks, set up endwise, with the butts resting on the ground, and the tops reaching over the apex of the heap, sufficiently thick to conceal the potatoes. Then cover the whole pile with earth, at least a foot

thick, without leaving any air hole at the top, as is frequently the case. A temporary shelter should then be made over the cone, so as to prevent the rains from washing off the earth. This may be done by setting in the ground near the base of the pile, four forked stakes, on which rails or small poles may be placed, to support a covering of bark, rough boards, or thatch. Potatoes can be preserved in this manner until June, nearly as fresh as when new.

CRANBERRY RAKE.

This is an excellent article for gathering cranberries, and saves the labor of many persons. After raking, the berries are spread until the chaff is dry, and then winnowed as grain.



CRANBERRY RAKE.—FIG. 78.

HARVESTING AND STORING ROOT CROPS.

CARROTS, sugar beets, and mangold wurtzel should be well secured before the occurrence of heavy frosts. They should be perfectly matured, before they are pulled, which may be known by the yellowish color of some of their leaves. If allowed to remain unharvested beyond that time, a new elaboration of the juices takes place, and much of the saccharine principle, which is the fattening one, is destroyed.

Turnips and parsneps may be left in the ground until there is danger of freezing, and the latter, if not wanted for winter use, are all the better for remaining unpulled until spring. In this case, all the water must be carefully led away from the beds, otherwise, they might rot.

Potatoes, for winter keeping, should never be dug before they are ripe, which may generally be known by the decaying of the vines.

All kinds of culinary roots, after digging, should be protected from the sun, by throwing over them some leaves or straw, and as soon as the dirt attached to them becomes dry, let them be carried, at once, to the cellar or pit, where they are to be stored. They should be kept from the air by putting them in barrels or bins, loosely covered with straw; and it would be still better for them to sift in between the in-

terstices some fine, dry sand, or powdered, air-slacked lime. Such as are stored in the fields may be put in pits, where the ground is sandy and dry; or they may be piled up in conical or long heaps above the surface, at any height required. A coating of straw should first be laid over them, in the manner of thatching the roofs of buildings, in order to shed off the rain. In parts of the country subject to heavy frosts or snows, the heaps should be covered with a layer of earth, sufficiently thick to prevent the roots from freezing; but care must be observed not to expose them, if possible, to a temperature above 38° or 40° F., as they then would be liable to heat, grow corky, and probably rot. The earthy covering for winter need not generally be completed until quite late in the season; as, by leaving the straw partially bare, the escape of moisture and heat from the roots will thereby be facilitated, which is all-important, immediately after they are thus stored. When finally covered over for the winter, a hole should be left at the top of the heap, or several, if the pile be long, in each of which a whisp of straw should be placed, for the escape of moisture and gas. If the ground be stiff and clayey, the heap should be surrounded by a ditch, at least a foot deep, so as to carry off all water that might accumulate from rain or melting snow; otherwise the lowermost portions of the heaps would become wet and spoil.

IMPROVED HARROWS.

Of all the implements used by farmers, I think the harrow has been the most improved. Memory carries me back, when the only one used by me was made from the crotch of a tree, with twelve or fifteen clumsy, wooden teeth; and as cheap as the improved harrow is, with an iron clevis and steel-pointed teeth, many of the farmers in this section of this state, use no others than those with wooden teeth.

Now, if a wooden-toothed harrow can do as good work, and pulverise the ground as well as an iron-toothed one, and last as long, then it is just as well, and a great deal better; for the wooden harrow is the cheapest. But we have yet to learn that such is the fact. The common crotch harrow, it is true, if it had a suitable number of iron teeth, will generally do very good work. Harrows of this sort, however, are very clumsy, and require two men to load one on a cart.

The square-hinged harrow, with thirty iron teeth, is much neater, more easily handled, and at the same time, does very good work. But the best implement I have ever seen and used is Geddes' patent, triangular, folding harrow, with its thirty iron teeth, which runs through the ground much more freely, and is less liable to clog than the square kind. While, at the same time, a boy can put it together, or take it apart, leaving the implement in two parts, which can easily be loaded on a cart by a single man. It makes good work, pulverising the ground well, and for harrowing in seed, it has no superior.

L. DURAND.

Derby, Ct., Feb., 1850.

PROFESSOR SIMONDS' LECTURE ON THE DISEASES, &c., OF THE LIVER.

THE following lecture on the "Structure, Functions, and Diseases of the Liver in Domesticated Animals," as lately delivered before the Royal Agricultural Society of England, by professor Simonds, is well worthy of perusal by the farmers of this country, as his explanations of facts observed in common farm practice suggests a remedy for diseases heretofore thought incurable:—

The liver is one of the most important of the internal organs, as it separates injurious matter from the blood. Food entering into the stomach is digested; it then passes into the intestinal canal, where it is mixed with the bile and pancreatic juice; and it is by the combined action of these fluids upon the chymous mass that its change into nutriment is effected. As to the anatomy of the liver, it is one of the largest organs, and is denominated a "gland," because it separates fluid from the blood. In one important respect, however, it differs from all other glands, namely, in separating the fluid from impure or venous blood.

The liver of animals differs in size without reference to their bulk, that of herbivorous animals being generally the smallest. The human frame has several cavities, each containing important parts of the viscera; thus the heart is in the chest—the stomach, &c., in the abdomen, which is divided from the chest by a membrane termed the diaphragm. Anatomists divide the abdomen into regions, by means of two transverse lines drawn from the inferior rib to its opposite, and from hip to hip; and also by two vertical lines. The whole arrangement may be figured thus, and the spaces are named as follows: 1, right hypochondriac region; 2, left do.; 3, epigastric; 4, umbilical; 5, right lumbar; 6, left do.; 7, hypogastric; 8, right iliac; 9, left iliac. The hypochondriac regions are so named because they lie beneath the cartilage of the ribs.



FIG. 79.

The umbilical, because it contains the navel. The epigastric, because it is above the stomach. The hypogastric, because it is under the stomach. The liver is situated in the middle one of the three great regions, termed upper, middle, and lower; sometimes stretching up into the epigastric region. It is divided into lobes. In horses, it consists of a right and left lobe, with a *lobus cistatus*, or notch-lobed, in the centre. In the ox and sheep, the notches are absent, and there are three lobes—right, left, and middle. In some animals, there is an appendage called the "gall bladder;" but the horse has none. Its absence is not confined to any particular tribe, as it is found in some of the deer tribe, and not in others. This receives secretion from the liver; but is not necessary to the life of animals, as horses, and some other species do without.

The liver being a secreting gland, and receiving much impure blood, has veins from nearly all the organs entering into it. The anterior

and posterior mesenteric veins, (from the large and small intestines,) and the splenic, pancreatic and gastric veins, (from the spleen, pancreas, and stomach,) combine to form the *vena porte*, which conveys the blood into the middle lobe of the liver. Thus, there is a constant conveyance into this organ, of matters in the blood, which are not essential to the general well-being, but only to the heat of the animal. The *vena porte* comports itself like an artery; that is, it splits up into a number of veins so minute as to be named capillaries, which traverse the liver in every part; and it is in these that secretion takes place. The liver is also excretory. For, in the fetal life in some animals, it receives the whole of the blood before it passes into the fetus. The veins pass through the portal canal, which is lined with cellular tissue; the veins, biliary ducts, and arteries lie in a triple form, thus: °° with cellular tissue upon them; an arrangement which the lecturer very aptly illustrated by a reference to three drain pipes in a trench bedded down with straw. The various vessels split up into lobules, the veins and ducts being named inter-lobular, &c., according as they are within or between the lobules. So much for the anatomy.

The blood is purified by the bile which is secreted in the biliary ducts, the latter liquid exerting an influence upon the ligneous and starchy portions of the food, converting them into sugar; and this being soluble is suitable for nourishing the system. Within a few months past, experiments have been undertaken in this and other countries to ascertain what is the precise action of the pancreas and liver; and it has been found that, although the pancreas chiefly are engaged in forming sugar, yet the liver also, does the same; and thus it has been shown, in opposition to Liebig and others, that an animal is capable of generating a chemical principle, namely, sugar. The bile cells contain fat, and the liver has much sugar, from which fat is derived, there being a new light thrown upon the formation of fat in animals by this modern theory. Bile not only acts upon the food, but is also excrementitious. The coloring matter of the bile is found in the intestinal canal; and if there be too much here, the effect is diarrhoea.

Having briefly touched upon the physiology, we now come to the diseases of the liver. This organ, like all others, is liable to derangement and structural changes. Its functions are very soon deranged, especially by placing the animal in a high temperature. Hence, in tropical climates, liver diseases abound, and animals are peculiarly subject to such maladies during the summer. Now, there is one disease of the liver called *jaundice*, which depends often on functional derangement, sometimes upon structural changes, or obstruction; in fact there are three or four causes for it. This shows the necessity of consulting some individual who has made such things his study, and who is able to detect each of these causes. Whereas, to the unpractised the effects of these may appear alike. If the character of the secretions depend upon the purity of the blood, and if this again depend on

the nature of the food, then, as is the food, so will be the bile; and from the wrong quantity of food, &c., the bile may become thickened, may run together; and thus we have calculi both in the ducts and in the gall bladder. Here then comes the question, if an animal is effected in this manner, is it from gall stones or not? If so, there may be a little danger; but if the calculus be in the biliary duct, great harm will result; for in the former case, there is no obstruction to the flow of the bile; in the latter, there is. This is of more importance in the sheep than in the ox; for in the former, the pancreatic duct joins the biliary duct before entering the intestinal canal. A calculus in the biliary duct hinders the passage of that which forms nutriment; and, as when the liver secretes too much bile, it runs into the membranes, &c., of the body, the calculus sends it in the same direction.

It likewise affects the urinary secretions; but when gall stones cause jaundice, there is no diarrhœa, and the urine is not rendered brown. A practised man, therefore, would distinguish by these and other symptoms, between the different sources of the disease.

Now, as to treatment. If the cause is inflammation, get rid of the constipation in the bowels by aperient medicine, and there may be, also, an application of counter irritants to the side. A gall stone requires a different mode of treatment. We must get rid of the mechanical obstruction—we must excite the ducts to throw off more bile, so as to drive it away. These remarks lay the foundation for a few observations upon the rot in sheep. No disease has received so much attention; and it is most important to the farmer, that we should inquire into its nature. Rot depends, in a great measure, upon the quality and kind of food with which sheep are fed, some pastures being notorious for it, others, entirely free. As a broad principle, it may be stated that, when there is an excess of moisture, the food is prejudicial to the animal. This malady is not peculiar to this country, (England,) but prevails over Europe and Asia, and in Egypt after the Nile waters have subsided; showing that the cause is not in the soil, nor in the temperature, since it occurs upon any soil, and with any temperature. Perhaps there is more than one cause. Is there any particular period of the year during which it is most prevalent? We should say that it was from this time to the autumn. If a large quantity of rain were now to fall, there would be a luxuriant herbage, but that would be deficient in nutriment, and a great amount of moisture would be taken into the system of the animals which ate it. We have said that in the first stages of the disease, there is a considerable accumulation of fat. Now, sheep put on water meadows, at this season, are almost sure to have the rot; and as this directly induces fatness, sheep have been fed in this way for the market. The bile next loses its properties of supplying nutrifying matter. The blood consequently becomes impure all over the system, for the same reason that pure water is never obtained from a poisoned fountain.

We must now advert to those parasites of the liver called "flukes," which, in the gall ducts, produce the effect of a structural change. Some think that these oviparous animals are the origin of rot. The feculent matter of rotten sheep contains millions of ova of the flukes, and just as an egg will keep for any length of time, until heat is applied and the chick hatched, so these ova, while on the pastures undergo no change; but in their natural habitat, the body of the animal, they quickly develop themselves. Wheat in the same way, has been locked up in mummies for thousands of years, and then being sown produced plants. Youatt, in his work on sheep, treating of the anatomy of the fluke, describes organs which do not exist. What he calls the "eye," is a sucking disc by which the animal adheres to the liver. Flukes are bisexual or hermaphrodite. They have another disc at one extremity of the body, by some supposed a mouth; but if not, their nutriment, (namely, bile,) must be imbibed by the whole surface of the body. When placed dead in warm water, they will swell very much, which seems to indicate a considerable absorbing power. In conclusion, as to the principles that should guide us in the treatment of rotting sheep. Two years ago, seven or eight sheep, each showing the rot in its advanced stages, were put in a shed and supplied with dry and nutritious food; two were cured, the liver being still affected, but so little that they might have lived for years. Rot is a disease analogous to dropsy. It arises from impure blood, that blood being rendered nutritious by the water it contains, and the water penetrates into the cellular tissue between the jaws, &c. This has led writers into "sections" of this disease; but, "water rot" and "fluke rot" are only less or more advanced stages of one disease. If flukes exist, we must strike at the root, get rid of the animalcules, which do, by bringing about a healthy condition of the animal, since no medicine acts directly upon the flukes.

Many persons advocate the use of salt, it being a stimulant to the digestive organs. Some people keep it in troughs for their sheep to help themselves to; and it is certainly an excellent preventive. We know that it matters not how moist salt marshes are, for rot will not attack flocks there. But can we not do better? Salt has an injurious effect upon the stomach. We should throw tonics into the system. Mineral tonics are best, and sulphate of iron gives the greatest tone. We have said that the kidneys now do what the liver ought to have done, and we should therefore stimulate them to greater action. We do not mean to recommend the exhibition of ordinary diuretic agents, because they produce debility; but the spirit of nitric ether, which is a good medicine. We ought, then, to husband the animal's powers by placing him in a proper situation, dry, &c., supply him with nutritious, and dry food; we should mix it with salt, and administer small quantities of sulphate of iron, and nitric ether. We have no doubt that the farmer, by attention to these points, would often have to rejoice that he had not sent his sheep to the knacker, instead of the butcher.

SKETCHES OF CANADA.

On the 13th of August, I left Buffalo for a flying visit into that *terra incognita* to many of your readers, now known as "Canada West," a designation that, like many other improvements, does not improve greatly upon the ancient and well-known name of Upper Canada. But we won't quarrel about names until after "annexation," and then we will call it "the State of Ontario."

In leaving Buffalo, we take the cars for Niagara Falls, twenty-two miles over a cold, flat, clay soil, originally, and still, in part, covered mostly with oak, beech, and maple, and other kindred timber, and little of it cultivated in a manner to begin to show its capability of producing small grains and grass. I noticed farmers along the road busy cutting oats; and occasional spots were white and fragrant with the bloom of buckwheat. Corn, to one from a southern corn region, looked very diminutive, though of a rank-green hue, and now just in blossom. Orchards few, trees scrubby, fruit small, as a general thing. The railroad and cars upon this route are good; fare, 75 cents, time, 1½ hours.

The Falls Village is a place capable of affording a great and cheap water power; and if half the energy were displayed in turning it to some account, that is devoted to plucking the gulls that annually flock there, it would soon become a great manufacturing town, furnishing employment to thousands of laborers, and adding value to all the farming land in the vicinity.

From the Buffalo road, passengers for Lewiston and Canada step into the cars of the Lockport road, which stand ready in the open street, where all are disembarked, instead of a commodious depot under shelter, as is the fashion in some Christian countries. The road now runs just along the very edge of the frightful precipitous bank, and the boiling flood that rolls between the perpendicular walls of that immense chasm below the Falls. We begin to bear off from the stream at the Suspension Bridge, a structure that looks like a frail ribbon stretched from bank to bank, but yet is capable of carrying over heavy teams, elevated more than two hundred feet above the river, which seems here to be struggling to force its way through a gorge too narrow to admit the mass of water that pours down the great fall, three miles above. At the Junction, three and a half miles from Lewiston, we exchange from the wretched cars of the Lockport road, to others not much worse, drawn by horses down the long hill, to the steamboat landing on the Niagara. A most charming agricultural scene opens to view, while descending this hill. The farms upon the great Lewiston plain of alluvial lands, are spread out as it were, like a picture at our feet. Good farm houses, barns, orchards, stubble, and oat fields of golden hue, contrasting with the dark green of maize and grass, and all interspersed with groves of forest trees, and flanked by the village and river, and opposite shore, and town, and heights of Queenston, form a whole that is delightful, and never fails to gratify the eye of

every traveller who has a taste for rural scenes.

The time required to make this trip upon these railroads from Buffalo, is upwards of three hours—a little over ten miles an hour—which is rather slow railroad travelling, but decidedly better than staging over the same route thirty years ago.

The steamboat for Hamilton, left the Lewiston wharf at once, crossed over and touched at Queenston, and then down the river, stopping at Youngstown, on the Yankee side, and Niagara opposite, where the decaying wharves and warehouses bear witness that the spirit of enterprise and improvement, which animates the people of one side of this river, does not, for some unknown cause, affect the other side in the same way.

Directly after leaving these towns, we pass between the British and American monuments of wickedness and folly that disfigure the mouth of this beautiful river, bearing bristling cannon pointed at each other, where nothing but emblems of peace and productiveness of a rich soil and healthy clime should, of right, ever be seen to divide brethren from the same hearth stone, into two belligerent nations. A few miles after entering Lake Ontario, and turning north along the west shore, we run along side of the piers of the mouth of the Welland Canal, a work of monumental form to the mind that can conceive the project of lifting fleets out of Lake Ontario and sending them over the mountains, into the upper lakes, and in return loading them with the produce of western farms, and sending them direct to Europe.

The farmer, while tilling his crops in Wisconsin or Illinois, thinks but little that this canal exerts a direct influence in his favor, and tends to enhance the value of every bushel of grain he produces for sale. Yet, such is the fact, and such will ever be the fact with every canal, and railroad, plank road, or improved facility of getting produce from the place of growth, toward the place of consumption. Yet farmers, almost everywhere, are reluctant or dilatory to lend assistance towards any such improvement, or even to keep neighborhood or market town roads in decent repair.

We were about five hours making this forty-mile trip from Lewiston to Hamilton, against a head wind and a very sickish sea. The town lies a mile back from the shore at the head of Burlington Bay, which is entered by a short canal through the neck of land that divides it from the lake. It is said to contain 10,000 inhabitants, has some broad, handsome streets, and substantial stone and brick buildings, and like all new towns, shows some marks of its early Jonah-gourd-like growth. It is located upon a handsome inclined plane, which extends from the water to the base of the mountain range that skirts the lake a mile or two from the shore, which renders many of the farms, though picturesque in appearance, very much broken. I understand a narrow strip of these farms produce peaches, while others totally fail. The land between the mountain and shore appears to be a sandy loam—that upon the

sides and on the table land, which spreads out into a broad extent on top of the mountain, is a stiff, brown clay, and one of the best soils for wheat in North America. Owing to continued indisposition, while I remained at Hamilton, I was unable to visit many of the neighboring farms.

The agricultural capabilities of the district around Hamilton, and on westward towards London and upon Grand River, are probably equal to any tract of the same extent upon this continent; and I believe there are some very good farmers; but there is, upon the whole, a very great lack of that enterprising spirit which alone can bring a rich soil into a high state of culture and productiveness.

On Thursday afternoon, August 15th, I left Hamilton, and reached Toronto in four hours, run close along the north shore of the lake, where a good many flourishing farms are to be seen, if we may judge by what I have always considered a good sign, that is, good barns.

Toronto is also situated up a bay, though not back from the shore like Hamilton. One of the most prominent objects in approaching this city is the Lunatic Asylum, and next the extensive, commons lying waste in front of it, though not quite so worthless to the world as the barracks and their occupants, also seen in the same view. What a number of persons might support themselves by cultivating this tract of rich, alluvial land now lying idle, or only serving to show off the trappings of the few swords not yet made into pruning hooks and plow shares. I was disappointed in finding Toronto so much more of a lively, thriving business place than I expected. The population is about 27,000, which, I presume, includes somewhat extensive suburbs. One of the best farming regions of the province lies contiguous, and gives trade and wealth to this city.

By the politeness of Mr McDougal, editor and proprietor of the Canadian Agriculturist and the North American, I had an opportunity of viewing the farms some ten miles out "Yonge street." This name is given the continuation of the principal street leading north, in the direction of Lake Simcoe, which is about 37 miles distant. It has been graded and Macadamised upon a straight line, without regard to any obstacles, as creeks or ravines that might intervene, and like a great many similar foolish efforts to make a road straight, going through and over hills, instead of going round them, it has caused a great outlay of money in places where a slight bend would have saved the largest portion. It is a government work, and is kept in repair by tolls. The farms are laid out one fourth of a mile wide and one and a fourth deep; then comes another road, and so on. These strips are called "concessions," and are numbered according to situation. Cross roads, also, run a mile and a fourth apart; so the whole country is divided into squares of a mile and a quarter. This is an old French fashion, adopted, at first, along the streams for the purpose of giving a greater number of frontings upon the water. In the interior, it certainly is not so perfect a system as the

United States have, of mile-square sections and square subdivisions, all numbered by a systematic rule.

Leaving Toronto, we ascend very gradually from the lake, a couple of miles, and then up a low ridge corresponding with the curve of the shore, composed of sand, gravel, and clay, like the present beach. All the soil below the ridge is more spongy than above, though much more sandy. The upper level is a rich clay loam, without hills, though broken by ravines. Portions of it were covered with white pine, and other parts, with hard wood. This was made up of maple, beech, elm, ash, hickory, basswood, butternut, and some other sorts; oaks not being plenty. Farms of 200 acres, with a good comfortable brick house and out buildings, and good barn, and well fenced, and under fair cultivation, averaging 25 bushels of wheat, and 35 or 40 bushels of oats, and 200 of potatoes, will sell for about \$50 an acre, along this road, within ten to twenty miles of the city. Corn is only grown for home consumption, and does not probably average much more to the acre, than wheat. The soil here is excellent for grass, but the winters occupy half the year, and are sometimes very severe. I did not see so many cattle as I expected, though I did see a few herds of good-looking cows, and some small flocks of fine sheep. As for horses, I venture the assertion that I can count a greater proportion of good substantial, real serviceable farm horses upon this road than upon any other that I have ever travelled.

I observed here the same scarcity of good orchards, that I have elsewhere. There are a few rather tasty and somewhat ornamental places, but the great portion of them show the owners to be very plain, and probably, comfortable-living farmers, that have not yet heard of "agricultural chemistry," nor "scientific agriculture." Almost all we see, reminds us of Auld-Lang-Syne in farming, such as we were wont to look upon forty years ago, when the old Cary plow used to kick our shins, in Connecticut. The plow in most common use here, is the "Canada Scotch Plow;" and any argument endeavoring to convince these people that there is a better kind, or even any kind at all, equal to this, is argument thrown away. There are a good many other improvements in agricultural implements and machinery, that are as a sealed book to the Canadian farmers generally, and I fear will continue to be so, during the age of the present non-reading generation.

A gentleman by the name of Hurlburt, of Toronto, has spent a good deal of labor upon a machine to go by steam, to supersede the plow in some cases, and thinks he has now got it so it will work advantageously. The principle is more like spading than plowing. I hope with all my heart, he may be quite successful. There are many more things I might have seen in this part of Canada, and much more than I did see, that I might write about; but as I am only out for a "flight," I must plume my wings and away. So let us step on board the Princess Royal steamer, a very good boat, of the slow and

sure line, for Kingston, 180 miles northeastward.

The north shore of Ontario, below Toronto, appears dotted along with small farms, upon which that sign of prosperous condition, a good barn, is often conspicuous. The first town of any note is Port Hope, which is really a very hopeful looking place, occupying a smooth valley that opens up through the hills with a gradual slope from the water. It has an excellent wharf and good-looking buildings, and with one exception, I must commend the place. "Port Hope whiskey" has long been the most noted and abundant article of export from this town, and I fear that some of the bricks of its nice looking edifices are cemented with the tears of widows and orphans of those made drunk upon its wicked abominations. A neat church was seen peeping out of the trees upon one of the hills, and at the foot of another, upon a grassy, shady plot, on the bank of the lake, some dozens of boys and girls were making the earth glad with joy, while the setting sun gilded the trees over their heads, dancing to the merry notes of a poor old blind fiddler, and as we left the wharf, carrying away one of their companions, they made the earth resound with such cheerful notes as only are heard in those spots where dwells rural simplicity.

A few miles further on, and we pass Coburg, another thrifty-looking town, containing about 3,000 inhabitants and a costly artificial harbor. Many of the Canada towns seem to have a pride in one conspicuous public building. Coburg is in the enjoyment of this feeling, in a very splendid stone edifice. I regretted after it was too late, that I had not made arrangements to visit these two towns, and if I had known their importance, would have done so.

From here to Kingston, the passage was by night, but I was told the coast possessed no great attractions. I arrived in this ancient military-looking strong hold, on Sunday morning, August 18th, the weather perfectly clear, but cold enough to make a fire agreeable, if I could get it; but as that is not convenient, let us ramble out in the sunshine, and warm up a few ideas for my next letter. SOLON ROBINSON.

Kingston, Canada, August 19th, 1850.

RECLAIMING WET LANDS.

THE situation of my lands that I have drained was formerly springy and cold, and so moist, most of the year, that it could not be plowed, except after a long season of dry weather. The grass which grew upon it was poor, and of very little use either for pasture or meadow.

I have drained on different kinds of soil, and in all cases with good success. In some instances, at the bottom of the ditches, was marl, others gravel, and some clay, and the surface an intermixture, from the salt ridges in some instances.

I have tried both open and covered drains, but have been most successful with the covered ones. I commenced by plowing deep in the driest part of the year, generally in the latter part of August. I can ascertain where the

springy places are, and can better decide how to arrange my ditches. I place the ditches so as to touch all the portions of the soil that are most moist, in order to drain it as complete as practicable. [Mr. Gates makes his ditches of loose stones on his farm, and covers with flat stone, or slabs, when stones are not to be had. His ditches are generally from eighteen to twenty inches deep, and about fifteen inches wide. He has ditches covered with slabs which have been made eleven years, and are still in good preservation.]

As to the expense, it is but a trifle more than to finish properly, a good open ditch with sloping sides. The objections to these latter ditches, are, that they so readily fill up and occasion much waste of land. The results of ditching, have, I think, increased my land at least three times its former value. I have raised on this land so reclaimed, the season after the ditching was completed, the largest crops on my farm, of corn, potatoes, barley, and spring wheat. Some of it is now in meadow, which yields the first quality of Timothy grass, where, previous to its being drained, it was scarcely worth mowing and gathering, and the quality was inferior.—*N. Y. State Transactions.*

DANIEL GATES.

Sullivan, Madison County.

IRRIGATION.—No. 4.

Quality and Preparation of the Soil.—The best soil for a water meadow is a good gravel, though the richest herbage is sometimes found where there is scarcely any soil at all; as, on the meadows on the river Avon, in Wiltshire, England, which consist of beds of shingle and pebble stones, matted together by the roots of the grass. From good authority, it seems essential to the formation of a good water meadow, that the bottom be porous and free from stagnant water. Hence, under-draining is often indispensable before a meadow can be established; and a marsh or peat bog, if drained and consolidated, may have water carried over its surface, and produce very good herbage.

If the soil is a very stiff clay, draining is indispensable where a water meadow is to be made. It is found, also, that the more porous the soil, the less depth of water is required, which may not be obvious at first; but clayey soils let the water run over the surface without soaking into the roots, whereas, the porous soil is soon soaked to a considerable depth. The water, therefore, must be longer on the clay than on sand or gravel, to produce the same effect. If the water is properly applied, however, almost all kinds of soils may be converted into fertile meadows. On very stiff clays, a coat of sand or gravel, where it can easily be obtained, will greatly improve the herbage. The gravel should not be plowed in, but spread on the surface, two or three inches thick. Soils, also, containing clay in an unburnt state, on account of their aluminous salts, have the property of fixing the ammonia contained in the water, an important fact to be observed in regard to the distance it has to flow before suffered to waste.

AMERICAN WINE FROM THE EUROPEAN GRAPE.

I beg to submit the following statement of my management of vinery, &c. The vinery is located at Syracuse, near the Fair grounds; it is on a hillside, with a southern exposure. The soil loamy on the surface, with a subsoil of red clay, which loosens by exposure to the air. The ground was covered with stumps and brushwood when I entered upon it, six years ago. I hoed it over thoroughly, so as to entirely reverse the soil to the depth of about two feet, using the roots and stones as a fence. I manured it over in the second and third years. The grape roots were all imported from Baden-Baden, 20,000 in number; 15,000 of them I planted out, digging the holes about four feet apart, about eighteen inches deep, and setting in the roots aslant, about six inches towards the south, so that the top laid upon the ground towards the north, but not enough to expose any part of the plant. I arranged it so as to have the plant settle from sight, and mark the spot with a stick. The other 5,000 plants I reserved to supply failures of those planted out. Over 4,000 of them failed, in consequence of shipment from Europe, too late in the season; but this difficulty, I have obviated by successful operations with slips.

I have cut slips four or five feet long, and prepared a trench about eighteen inches deep, and laid in the slip bending it up even with the surface, and marking the spot with a stick. Plants raised from slips, so prepared, have borne grapes the second year, in some cases, and always in the third year by cutting back so as to leave the first year two buds, and the second year four. Very short plants, I allow six buds. In the fourth year, twelve buds, and in the fifth year, as many as thirty buds may be left. The ground should be worked every spring, about six inches deep. For raising grapes, the plants should be eight feet apart, and this would allow a plow to pass, and be cheaper than hoeing. Any vegetable may be raised between them that does not grow high enough to obstruct the sun. The refuse from vegetables, well rotted with cow dung, is the best manure. Horse or hog manure is injurious, as it creates a kind of excrescence to grow upon the stems, and otherwise hinders the growth, and indeed, often destroys the plant. In the spring, after flowering time, some of the underneath foliage should be removed to allow a free passage of air to the berry; otherwise they do not develop themselves fully, and many shrivel up and are lost.

Mildew is the only foe I have encountered, and this may be conquered by arranging the land so as to prevent dust from settling on the grape, which is the cause of mildew, as it holds the moisture of dews or rain about the grape, which would not be the case if the grapes were clean. Hoeing should therefore be avoided during the summer, as it loosens the earth and raises dust.

The grapes should not lay on the ground, neither should they be raised more than four feet above it. Trimming should be done every season, in March; late trimming, (in the Euro-

pean grape,) causes bleeding, and consequent loss of thrift.

Making Wine.—The grapes must be gathered when fully ripe at the end of October, or beginning of November—the frost will never hurt the ripe grape—throw the grapes into a large tub, and pound them so as to break the grape; let it stand three days for red wine, (for white wine from black or blue grapes must not stand,) then press the liquor from the seeds and skins in a common press, keeping out the skins and seeds; put it into a hogshead filled within three inches, and make around the bung hole, at about an inch and a half from it, a rim of clay four inches high, into which fermentation will throw the impurities; let it stand a week, and then remove the clay and place over the bung hole a sand-bag valve for a few days, until the fermentation subsides, after which, bung it up, leaving a small vent by means of a goose quill near the bung; after two or three days, close it tight and let it stand until February, and on a clear day, rack off in small barrels; these barrels will require to be kept in a cool cellar, and filled up once a month, the volume being constantly diminishing, and the vacant space would cause the whole to sour. All the vessels used should be very clean, and no metal should be brought in contact with the wine in any part of its manufacture.

The following are the grapes cultivated by me:—

Black.—Burgundy, Silvaner, Black Cluster, Champagne.

Red.—Feldliner, Muscat, Malvider, Factor, Rolander.

Blue.—Factor, Hungarian.

White.—Netherlander, White Cluster, Elsesser, and many others.—

Syracuse, September 12th, 1849. B. POPPE.

B. Poppe, of Syracuse, exhibited a specimen of new grape juice, or *must*, for wine, which he calls a champagne; the one made from a mature white grape, and the other from a ripe grape of a dark color. The latter was thought to promise well. We understand the maker is a German, and is attempting to apply German vine-dressing and vintage to the soil and climate of the centre of our state. May he have abundant success. The manner of culture by Mr. Poppe, is annexed to this report as per above.—*N. Y. State Transactions.*

POULTRY.

It has been rather a current historical opinion, that the citizens of Boston have been *game* since about 1630, when old Governor Winthrop first took possession of Tri-mount, and drove off the blood-thirsty salvages, the Pequots and Naragansets, who infested the numerous strong holds of that, and the neighboring regions. But whatever may have been their character in the olden time, it is quite certain, if not game before, they are being converted into game now, quite rapidly.

As an illustration, we give a few items from rather a *cute* Quaker poultry fancier, away down

in the *Jarseys*. He had been taken in some years ago, by a Yankee clockmaker, who had sold him a machine, that *did not quite come up to* the recommendations of *Mr. Slick*. When the poultry fever broke out in Boston, last fall, he was determined on revenge against the Yankee nation, and luckily for him, he had all the weapons of war, catapults, battering rams, and what not, to accomplish his design. So down to "Bosting" he started, with about 500 head—we might better have said 1,000 *wings* of poultry. His geese weighed 23 pounds a-piece, while Colonel Jacque's—the brag game cock of the old Bay State—weighed but 19 pounds 2 ounces; turkeys weighed 26 pounds; Dominiques 9 pounds; Jersey blues 10 pounds; Shanghaes 12 pounds, while the capons kicked the beam at 30 pounds the pair! the latter, perhaps, being bought especially for continuing the breed! All were turned into gold at \$5 to \$7 and \$8 per pair, for fowls, \$10 for turkeys, while the geese were deemed very cheap at \$20, the price being probably raised from the undue excitement among the *ganders*.

The result was so satisfactory to our Jersey friend, having got full indemnity for his wooden pumpkin seeds, that he intends being on hand with "a few more of the same sort" at the next poultry fair in the metropolis of universal Yankeeedom. With the epic bard we ejaculate,

When Gilpin next doth ride abroad,
May we be there to see.

PREPARING BONES FOR MANURE—DISSOLVING THEM IN SULPHURIC ACID.

By breaking up the solid and tenacious structure of bones before applying them to the soil, their materials are much more readily appropriated by plants. If applied in the condition in which they are found in the animal, years would elapse before they would thoroughly dissolve and mix their elements with their kindred dust. By the mechanical operations of breaking, crushing, grinding, or sawing; or the chemical change effected by dissolving in sulphuric acid, or by steaming, burning, or fermentation, they are ready, at once, to yield their nutritive properties to the crops.

In this country, bones are generally ground before using as manure. Immense quantities are furnished by the manufacturers of buttons, and other products of bones, and this is so finely divided by sawing and other manipulations, as to need no further preparation. But in Europe, much of the bone is prepared for agricultural purposes by dissolving in sulphuric acid. This is done by mixing two or three parts of water with one of acid. If the bones have been previously crushed, one third their weight of acid will dissolve them; if they have not been previously broken up, then half the quantity may be required. The sulphuric acid is worth, usually, in this market, about two and a half cents per pound, while the bones, especially the *ap* fuse ones, in the interior, may be considered *valueless* for any other purpose except manure. If there be no means for grinding, then we *sa* decidedly, wherever manure is desirable, (and

where is it not?) it will generally pay for dissolving the bones in the acid, if obtainable at the above price. It may, however, be a still more economical preparation to burn them, by which the earthy matters, the phosphates, &c., are all left in the residuum.

The sulphuric acid is, of itself, a fertiliser of much value, and by its application alone, will, under favorable circumstances for its application, produce good returns. We should, however, esteem it, in this country, as too expensive for general use, considering its relative value as compared with our products.

Fermentation of bones, is quite as economical as burning, and by this process, fertilising portions, which would otherwise be expelled and driven off into the atmosphere, will be retained with the earthy matter, and remain to add to the value of the compost heap. Each of these methods we have more than once detailed in the previous columns of our paper, but the great value of bones, as fertilisers, induces us frequently to recur to it.

NEW VARIETY OF WHEAT.

We have received from one of our correspondents, the following description of a new variety of wheat he has cultivated for two or three years. We have the promise of some of this seed another season, it having all been engaged before our application reached the grower:—

I selected some stalks from my field of new wheat, the past season, that measured, in height, six feet, nine and a half inches; the blades were seven eighths of an inch wide, by actual measurement, and the heads, including beard, eleven inches long, and containing as many as 120 grains, which, in point of size, surpass anything of the wheat kind, known in this section of the country. I have never sown any of this wheat, early enough to expose it to the attack of the fly, and cannot, therefore, say positively, whether or not, it is capable of resisting successfully, the incursions of that great enemy to the wheat growers. I will say, however, that, if vigor and strength are any safeguard against the fly, it is entirely impervious to the attacks of that foe.

In regard to its power of resisting rust, I think the experience of two consecutive years, will justify me in saying that it is not at all liable to that disaster. I selected, last fall, thirteen acres, in the middle of my field, upon which I seeded my new wheat, broadcast, plowed it in, and harrowed on top the lands, to pulverise and level the same. On each side of this lot, I seeded in the same manner, and almost the same time, two other varieties of wheat, one of which, the "hardware," is a favorite bearded white wheat. The result was, that both the old varieties were injured by rust, whilst the wheat in question, entirely escaped. The season just gone by, has been one of the worst upon the wheat growers that has been known here, for many years. There was not one single kind of wheat in the whole county of St. Mary's, so far as I have been able to ascertain, that was not injured more or less by the rust, except the new wheat.

QUERIES—LIME, THE FOOD OF PLANTS.

I wish to offer a few remarks upon some of your correspondents, who, I think, are a little careless in some of their language. I do not wish to discourage anybody from writing for your useful paper, but as I am an uneducated farmer, I desire to read articles that I can understand without too much trouble; for, as Lord Chesterfield used to say, "where the sense lies so very deep, it is generally not worth the trouble of digging up." His meaning, however, I do not intend to apply, by any means, to all the articles I may notice, as the first one, for instance, is good enough in itself, namely, "To Measure the Height of Standing Trees;" but I think persons unacquainted with trigonometry, unless they had seen the operation performed, could not understand it. What does "A Traveler" mean by the "point of distance," where no distance is given?

The next article, "Gunpowder for Choked Cattle," looks something like punning. Query. Would it not be as well to "use the fire" with the first charge? [Yes.—Eds.]

"To Destroy Weeds in Walks." Would not the boiling water answer without the chloride of sodium? It might take a little more of it.

I observe, also, (and the observation is not intended to apply to any one writer,) that you hold the doctrine, in your paper, that lime is not a direct food for plants. Now, I am not going to dispute this, for I am no chemist, and I do not know, that, as a farmer, I dissent, excepting partially, in my practice, from your conclusions; but I confess myself unable to understand your theories, when you assert that lime is not a direct food for plants. I suppose you mean the lime which we Pennsylvania and New-Jersey farmers get from Philadelphia and New York, and which I see you call carbonate of lime. If you do not, I wish to understand you. And this lime contains a considerable quantity of carbon, which, (carbon,) is the base of all straw or stalks of plants. Query. Is this evidence of direct food? I do not profess to be acquainted with chemical terms, and may misunderstand. Indeed, I am unable to understand the conclusions arrived at, in this particular; but am anxious, when I read, to comprehend what I am reading, and would be pleased to see what appears to be a *prima-facie* contradiction explained.

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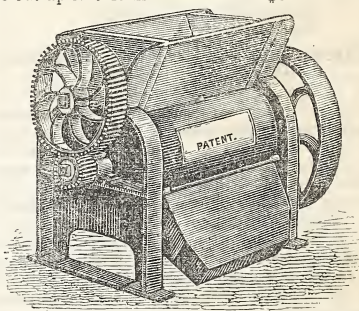
We have never meant to be understood as denying that lime is a direct food for plants. Every correct analysis shows lime to exist, in greater or less proportions, in the ash of all plants, however minute this proportion may be. What we do say, is, that the beneficial effects of lime are mainly due to its effects on soils, changing their elements from inert and intractable matters, which are perfectly unadapted to minister to the growth of crops, in their present condition.

These beneficial effects are not confined to the fixed or earthy parts of soils, but are apparent in the arrest and hoarding of the fertilising materials floating in the air, or which are brought into contact with it, by rains and dews,

or irrigating streams. It also concocts and combines with the vegetable food and manures which are brought to the soil and mixed with them, and prepares them for assimilation with the growing crops. These are the principle benefits we claim for lime, there probably being enough of it in any soil, to furnish the quantity taken up and permanently retained in the crops of a hundred, or it may be, a thousand seasons.—Eds.

IMPROVED CORN AND COB CRUSHER.

This machine is designed for crushing corn and cobs for feeding to stock or previous to passing through millstones for grinding into fine provender. It is also used to crack corn, alone, suitable for homony or for the use of stables. It has the merit of compactness, durability, uniformity in its work, and economy of power. Its height, when set up for work, is about three feet. It will grind the cobs and corn to the same degree of fineness, and this it will do when the corn is damp, or even green, without clogging. It is generally moved by a four-inch belt, but it may be driven by gear, without inconvenience. This machine will crack the corn and cob much faster than one stone can grind them. It is also asserted by experienced millers, that any millstones will grind at least one fourth faster and finer when the cobs are cut up in this manner. Price \$50



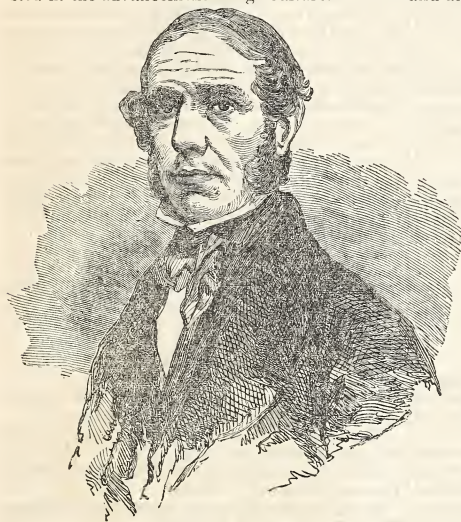
CORN AND COB CRUSHER.—FIG. 77.

CUT WORMS.—These pests are most effectually destroyed at the north, by deeply plowing the fields, just as the winter is setting in. They have by this time settled into their snug winter quarters, far below the surface, and by throwing them upon or near the surface, where the pelting storms and severe frosts will catch them, when too much chilled to seek anew for a hiding place, large quantities of them will be destroyed.

Colonel Fluker, of Louisiana, says, for the cotton crop of that state, they are most effectually exterminated by plowing deep about the 1st of April, just before planting the cotton. In the south, millions have been destroyed, and his own fields have been saved from their ravages, while others around him have been greatly impaired by them.

REPUBLICATION OF PROFESSOR JOHNSTON'S LECTURES.

DEAR SIR.—I have learned with great pleasure that you propose to publish an edition of the lectures of Professor Johnston, delivered before the New-York State Agricultural Society and the Members of the Legislature of New-York, the past winter, and which are published in the Transactions of the Society. They were received with great favor at the time they were delivered, and a perusal of them, since their publication, has elicited warm approbation from many distinguished men in our country, interested in the advancement of agriculture.



James Fa Johnston

FIG. 78.

These Lectures show the intimate connection which exists between science and practical agriculture, and no one can peruse them without being fully sensible of the high calling of the farmer, and of the destiny which awaits him when science and education shall bring to his aid all that they can confer upon his profession.

Professor Johnston is a native, I understand, of Kilmarnock, in the east of Scotland, and was educated, it is believed, at the University of Glasgow. He pursued the study of chemistry with Berzelius, a distinguished Swedish chemist, and travelled very extensively, at an early period of his life, in the northern regions of Europe—in Sweden, Norway, Finland, and Russia—traversing the whole breadth of European Russia to the Wolga. Subsequently, he made himself familiar with the agriculture of

other portions of Europe by personal examination. At the foundation of Durham University, in England, he was appointed one of its teachers, and is now reader in chemistry and mineralogy in that distinguished institution. He was appointed Professor of the Agricultural Chemical Association, of the Highland and Agricultural Society of Scotland, in November, 1843, for five years, and during that period, his labors were productive of great good to the agricultural interests of Scotland.

Professor Johnston published his lectures on Agricultural Chemistry and Geology, in 1841, and an enlarged edition was published in 1847.

In this country, this work has passed through more than twenty editions, and it has also been republished on the continent of Europe, in French and German, and has secured the confidence of the farmers of this country, more than any work published, so far as I am informed. He has published "Contributions to Scientific Agriculture," being a summary account of the proceedings and operations of the Agricultural Chemistry Association of Scotland, during his connection with it. This is a very valuable work, and deserving of extensive circulation in this country.

Professor Johnston prepared, for schools, a Catechism on Chemistry and Geology, which has been very extensively introduced into the primary schools in England, Scotland, and Ireland, and has passed through twenty-two editions there. It has been republished in France, and it is believed, in several other countries of Europe. An edition has been published in this country, with an introduction by Professor John P. Norton, of Yale College, who pursued his studies a portion of his time, with Professor Johnston, while engaged in the Agricultural Chemical Association of Scotland. This is a work of great merit, and has been productive of the most favorable results wherever introduced.

Professor Johnston was invited by the New-York State Agricultural Society, in 1848, to visit this country, and deliver a course of lectures before the society, and such other associations as he might be enabled to address. His connection with the Chemical Association not being concluded, the invitation was then declined. In 1849, the invitation was renewed, and he appeared before an American audience, for the first time, at the Annual Fair of the Society, at Syracuse, in September. His address upon that occasion was upon the agriculture of Europe, and was listened to with great interest, by an immense auditory. In January, 1850, he delivered the course of lectures which are now presented, in separate form, before the Society and the Members of the Legislature. He subsequently delivered a course of lectures

before the Lowell Institute, Boston, also before the Smithsonian Institute, at Washington, and two lectures before the American Institute of New York. He made an agricultural examination and survey of the Province of New Brunswick, which has been published by the Provincial Legislature, and which is very highly commended by gentlemen of that province.

Professor Johnston is in the meridian of life, and of usefulness; and, should his life be spared, as we trust it may be for many years, from his acknowledged industry, his habits of thorough investigation, his ardent desire to contribute to the advancement of science, his labors will yet, we doubt not, result in great good to the cause to which he devotes the entire energies of his vigorous intellect.

The agriculturists of America are under great obligations to him for the course of lectures which are about to be presented to them, and we feel assured that they will prove of unspeakable advantage to the entire agricultural interest of our country.

Professor Johnston is a Fellow of the Royal Society of England, Honorary Member of the Royal Agricultural Society of England, Honorary Member of the New-York State Agricultural Society, and of several of the European scientific agricultural associations.

B. P. JOHNSON,

Cor. Sec. N. Y. State Ag. Soc.

To C. M. Saxton, Esq., N. Y.

Albany, Aug. 19th, 1850.

SALE OF MR. SHEAFE'S SHORTHORN CATTLE.

This great sale came off at the High-Cliff Farm, Dutchess county, N. Y., as advertised, on the 29th of August.

At 12 o'clock, M., upwards of 300 persons had assembled upon the ground, many of whom were opulent farmers of the neighborhood, and gentlemen from distant parts of the country. The stock was tied in a row six feet apart, in the same order they were numbered in the catalogue, in a fine grass pasture, just west of the farm house. They presented a front of upwards of 200 feet in length, and made a superb show. Though merely grass fed, the animals were in excellent condition, and reflected no little credit on the herdsman, Mr. Lawson, for his superior care in bringing them to the post. The whole thing was admirably arranged, and a gentleman present said, it reminded him of the great sale of shorthorn cattle, which took place at Castle Howard, seat of the Earl of Carlisle, in England, in 1839.

A bountiful collation was provided under a large awning, of which the company were invited to partake, as they came on the ground. This finished, and fifteen minutes grace allowed, for lagers behind time, Mr. A. B. Allen—to whose care Mr. Sheafe had left the stock and farm—called the company to order at a quarter past one, P. M., and proceeded to address them for about ten minutes, on the value of this highly-improved stock to the dairymen and graziers of the country, and also as an additional ornament to the grounds of country gentlemen.

Mr. J. M. Miller, the auctioneer, now commenced the sale. The bidding was highly spirited, and the 33 animals in the catalogue, together with two others dropped since it was published, making 35 in all, were struck off within an hour. He then proceeded to the working cattle, sheep, and swine, which took nearly another hour. The pair of working oxen brought \$142.50; the sheep and swine sold comparatively low. A few grade shorthorns, not advertised nor put into the catalogue, were disposed of afterwards, at private sale. The sum total of the stock sales, on that day, was a little over \$5,000.

Although the prices obtained for this herd were not what they ought to have been, to remunerate a careful breeder, still, they are so much higher than the same quality of animals would have brought at any time for the past seven years, that it looks more encouraging to the producers of improved stock. We trust that the farmers of America will yet have spirit and intelligence enough to arouse themselves to equal their English brethren on the other side of the Atlantic, who have long been, and still are annually reaping a rich harvest in the production of superior domestic animals.

No. 1. Dahlia 1st, calved June, 1836. A. L. Allen, Poughkeepsie, N. Y., \$47.50.*

No. 2. Dahlia 3d, calved April, 1846. S. B. Parsons, Flushing, N. Y., \$95.†

No. 3. Dahlia 4th, calved April, 1847. J. T. Moore, Rahway, N. J., \$105.

No. 4. Dahlia 5th, calved April, 1849. George Vail, Troy, N. Y., \$60.‡

No. 5. Beauty 3d, calved March, 1845. Lorillard Spencer, Westchester, N. Y., \$180.

No. 6. Beauty 4th, calved April, 1846. S. B. Parsons, Flushing, N. Y., \$125.

No. 7. Beauty 5th, calved April, 1849. S. B. Parsons, Flushing, N. Y., \$80.

No. 8. Phœbe 2d, calved April, 1844. William Kelly, Red Hook, N. Y., \$145.

No. 9. Phœbe 3d, calved March, 1845. Lorillard Spencer, Westchester, N. Y., \$160.

No. 10. Phœbe 4th, calved June, 1847. H. & J. Carpenter, Poughkeepsie, N. Y., \$100.

No. 11. Phœbe 5th, calved March, 1848. George Vail, Troy, N. Y., \$125.

No. 12. Phœbe 6th, calved March, 1850. S. B. Parsons, Flushing, N. Y., \$75.

No. 13. Phœbe 7th, calved April, 1850. Lorillard Spencer, Westchester, N. Y., \$80.

No. 14. Lucilla 1st, calved June 1837. Sick, and withdrawn.

No. 15. Lucilla 2d, calved April, 1846. S. B. Parsons, Flushing, N. Y., \$125.

No. 16. Lucilla 3d, calved December, 1848. George Vail, Troy, N. Y., \$125.

No. 17. Lucilla, 4th, calved April, 1850. J. T. Moore, Rahway, N. J., \$80.

No. 18. Cream Pot 2d, calved March, 1845.

*Being fourteen years old, she was considered a doubtful breeder.

†Had lost one test.

‡Two gentlemen present informed us after the sale, that they had marked on their catalogues to bid \$100 and \$105 for this heifer, but by some unaccountable mistake, had let her go without doing so.

Lorillard Spencer, Westchester, N. Y., \$175.

No. 19. Cream Pot 5th, calved April, 1846.

Lorillard Spencer, Westchester, N. Y., \$140.

No. 20. Cream Pot 6th, calved March, 1848.

Phillip Burrowes, Staten Island, N. Y., \$125.

No. 21. Cream Pot 7th, calved April, 1848. H. & J. Carpenter, Poughkeepsie, N. Y., \$145.

No. 22. Cream Pot 8th, calved March, 1850.

J. C. Jackson, Astoria, N. Y., \$50.

No. 23. Cream Pot 9th, calved March, 1850. J. B. Holmes, Croton, N. Y., \$70.

No. 24. Seraphina 2d, calved March, 1845.

S. B. Parsons, Flushing, N. Y., \$105.

No. 25. Celeste 2d, calved March, 1848. J. Dickinson, Fordham, N. Y., \$185.

No. 26. Daisy 1st, calved August, 1843. S. B. Parsons, Flushing, N. Y., \$90.

No. 27. Daisy 2d, calved April, 1850. S. B. Parsons, Flushing, N. Y., \$50.

No. 28. Fun, calved September, 1844. George Vail, Troy, N. Y., \$170.

No. 29. Violet 1st, calved April, 1847. J. C. Jackson, Astoria, N. Y., \$100.

No. 30. Violet 2d, calved April, 1850. ——— Ellison, ——— \$55.

No. 31. Bull calf, dropped March, 1850. J. B. Holmes, Croton, N. Y., \$105.

No. 32. Bull calf, dropped March, 1850. ——— Margit, Long Island, N. Y., \$105.

No. 33. Exeter, (imported,) calved June, 1848. L. F. Allen, Black Rock, N. Y., \$500.

No. 34. Seraphina 3d, calved May, 1850. J. C. Jackson, Astoria, N. Y., \$65.

No. 35. Bull calf, dropped by No. 20, Cream Pot 6th, August 25th, 1850. Phillip Burrowes, Staten Island, N. Y.

The sale being finished, the company dispersed, seemingly highly gratified at the proceedings; though a few were somewhat disappointed that they had not been able to purchase within their limits. We understand an advance has been offered on several of the animals since their sale. We hope this may be an encouragement for larger and better sales hereafter, and that they may be got up in different parts of the country; for it is quite an advantage for the farmers to meet in this manner, to examine stock, and exchange ideas on various subjects connected with their calling.

Mr. Miller, the auctioneer, acquitted himself excellently well, and won the good opinion of all parties concerned. Having a taste for fine animals, and keeping a few himself, on his own farm, we think he is all the better qualified for his business, and bespeak for him the favor of our friends, on similar occasions.

SOWING IN DRILLS.

It has become quite a fashion with editors of the agricultural papers, to recommend sowing seed in drills; yet, with this abundance of kind feeling, no one undertakes to describe the *modus operandi*.

Now, Messrs. editors, in your superabundance of human kindness, inform us how far the drills should be apart, how many seeds to the hole, the depth the seed should be placed, and all the etceteras of drilling, taking wheat and corn as

the supposed bases of experiment. If not in time for the present month, it will do for the next year.

J. B.

Anapolis, Md., August 24th, 1850.

From numerous experiments made in various countries, for more than one hundred years, the drill system of sowing wheat has proved more profitable in the minds of cultivators, than by sowing broadcast, as in the common way; because, the wheat plants receive much more nourishment from the ground and air, than when grown in a thick and close position. The operation of sowing is usually performed by means of a machine called a "drill," which is constructed in such a manner, as to distribute the seed with the greatest exactness, and at any required distances apart, so that the precise quantity proposed, may be sown upon any field, and, at the same time, the seed equally distributed over all, and covered at a proper depth. But there is still a greater advantage that attends sowing by the drill—the regularity with which the seed is sown, allows the plants to be cleared of weeds, with little trouble, and at no great expense.

The quantity of seed proper to be sown, of course, depends upon a variety of circumstances, as, for instance, the kind of seed, the season of sowing, and the situation and qualities of the land. As a general rule, if the ground is not thoroughly pulverised, which it ought to be for the business, wheat may be sown in drills, at seven to twelve inches asunder, and from three to six inches apart in the drills only one grain in a place; for, the coarser, stiffer, and rougher the earth, the greater the distance it should be sown apart. But, if the ground is very fine, warm, and loamy in its character, six to ten inches asunder is sufficient for the drills, and two and a half to five inches apart for the grains in the drills. The depth to which it should be covered may vary from half an inch to an inch.

The eight-rowed yellow variety of Indian corn, when cultivated for its grain, may be sown in drills three feet asunder and six inches apart in the drills, one kernel in a place, and covered the same depth as above.

FIELD CROPS IN OTSEGO COUNTY.—Wheat, by George W. Deming, 33 bushels per acre; others 30 and 25. Rye, by O. C. Chamberlain, 30 bushels; others 28 and 33. Buckwheat, by Gustavus White, 41 bushels; others 30 and 29. Barley, by Wm. G. Northrup, 57 bushels; others 38 and 33. Oats, by Wm. Davison, 81 bushels; others 87 and 86. Corn, by Abijah Barnum, 93 bushels; others 85, 84, and 75. Peas, by Jos. Cheney, 32 bushels; others 25 and 18.—*N. Y. State Transactions.*

CULTIVATION OF BROOM CORN IN MONTGOMERY COUNTY.—The raising of this crop is on the increase along the valley, and brings from \$20 to \$30 per acre on the field, when ready to cut. From 800 to 1,000 acres are now planted; about one fourth of the brush is made up in the county, and the remainder out of it.

TENTH ANNUAL SHOW AND FAIR

OF THE

N. Y. State Agricultural Society.

We have to record another jubilee for the farmers of New York, and another triumph of their skill. Their annual show was held on the beautiful grounds adjoining the Bull's Head, a mile above Albany, on the 3d, 4th, 5th, and 6th of September. In the extent of its grounds, in the number of its specimens on exhibition, in its receipts and disbursements, and especially, in the vast multitude that thronged to witness the scene, this show surpassed all that has preceded it. The buildings and tents for the transaction of business, and the display of articles were tasteful and commodious; the facilities for the ingress and egress of vehicles and pedestrians were ample; and the entire arrangements were such as to reflect much credit on the officers of the society.

There was a serious inconvenience resulting from the peculiarity of the grounds, which the executive committee should be careful to obviate in future. The soil is an adhesive or pasty clay, which the heavy rain of the Monday preceding had thoroughly saturated, and wherever there was a depression in the surface, it was occupied by a soft mud, even three days after the rain; and while a strong south wind brought a dense and continuous cloud of dust from the adjacent road, considerable portions of the long ranges of cattle, which were located on a declivity, were almost inaccessible, except to those well shod with water-proof boots. A violent rain on Thursday night rendered walking on the following day, quite intolerable on every part of the show grounds. Now it appears to us, that the health and comfort of one or two hundred thousand human beings is of too much consequence to be thus jeopardized. It should hereafter be provided for, that the show grounds and their leading avenues shall be so arranged as to avoid the annoyances of both wet and dry. A loamy absorbent soil will prevent the one, and the expenditure of a very few dollars for watering carts, will avoid the other. We trust this matter will be fully heeded in future.

Another and highly important suggestion we have to make, is, that the entire premises surrounding, or within convenient reach of the show grounds, should be withheld from the occupancy of circus riders, thimble riggers, professional gamblers, and the whole race of loafers and vagabonds of every hue and description. These leeches, like the carrion birds that follow an army, are in pursuit of plunder, however it may be come at, and they should be repelled by the strong arm of the law, at all hazards. No city nor town that failed to protect the community against their presence, should enjoy the benefit of providing for the annual show.

Another consideration, and we have done with the disagreeables. We saw fewer of the military on the ground, *as military*, than usual; but there were some, and even a few are ob-

jectionable. We think such commodities as these, together with firemen, or any other specimens of the genus homo, in their associated or corporate capacity, should be reserved for their more appropriate display in Broadway or other densely-packed streets, where they can challenge universal admiration from the gaping holiday misses and children that usually surround them. But cattle shows are not the place for them, in their professional garbs. They evidently come not to see, but to be seen. They can accomplish the former, by doffing their badges and peculiar costumes, and appearing in a citizen's dress, in which we should be as happy to see and welcome them, as we are the farmers themselves, for whose special benefit these gatherings are instituted.

The amount of money received was much larger than any previous year, which was as follows:—

Members' tickets,	\$4,426.62
Tickets at the gate, at 12½ cents,	\$6,076.57

Total,	\$10,503.19
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This exceeds the Syracuse receipts \$2,321.06, and at Buffalo, \$4,186.81. The amount of premiums to be paid, nearly \$6,000 dollars. The other expenses not yet known. It is ascertained from the books of the society, that there were gentlemen present from 24 states—from New Brunswick, Nova Scotia, Canada, East and West, Oregon, California, Mexico, South America, and a sprinkling from England, France, and Belgium. The number in attendance, taking our receipts as the criterion, cannot be less than 90,000. Many, of course, make a much larger estimate, but the receipts upon a calculation founded upon the expense of past years gives the above as the probable number.

The number of entries of stock, as near as can be ascertained, were, cattle, 475; sheep, 567; horses, 286; all others, 153—1,486—machines and farm implements, 1,301; dairy, 90; grain, 68; vegetables, 167; stoves, 247.

The Horses on the ground were numerous, among which there were many of great excellence. There were no less than four imported bloods, of which Trustee, the sire of Fashion, and Consternation, the parent of an admirable race of road horses, in Central New York, were pre-eminently conspicuous. There was a family of the Henry horses, (not the defeated Henry from Virginia,) but the descendants and copies of a strong, well-made horse-of-all-work, that occupied a stable for some years in this state, and was subsequently removed to New Haven, where, as has been the fate of many other good horses, he is said to have been poisoned. But the horse that came nearest to our ideas of the horse-of-all-work, and which took the prize in this class, was the Morse's Gray, a horse we have before commended to the notice of the lovers of utilitarian horse flesh. With spirit, fleetness, fine form, hardness, strength, and endurance, he combines a docility of disposition that pre-eminently fits him for the service and companionship of man. These qualities, unmistakeably mark him as nearly allied to an

Arabian parentage, which conclusion, the origin of his sire confirms, he being selected in Italy, by one of the principal officers of Napoleon's army. Many of his colts were also on the ground, one or more of which took the first prize in its class, and all reflected great credit on their breeding.

There were many excellent specimens of the Morgan horse, both from this state, and Vermont, whose merits, as road horses, it would be difficult to surpass, for their size. There were numerous other good horses of all grades, from the thorough bred, to the most unwieldy cart horse, besides a goodly display of breeding mares and their colts. The number of match horses was not so great nor meritorious as we have before seen. Albany county, alone, could make a better display, we think, had there been a proper public spirit to have called them out.

Cattle.—The show of cattle, as to numbers and excellence in some of the classes, has never been surpassed, if it has ever been equalled in this country. There were many shorthorns and Devons, and of great merit. There were the shorthorn bulls Duke of Cambridge, Earl Seaham, and Vane Tempest, imported by Messrs. Sherwood and Stevens, and Waldeman, imported by Mr. L. Spencer. There were other choice animals, either imported or immediately descended from choice imported stock, but we cannot afford the space to enumerate them. A few excellent Herefords were shown, by Messrs. Keese & Corning. Fine Ayrshires were on the ground, from the herds of Mr. Prentice, the President, Mr. McIntire, the Treasurer of the Society, Mr. R. L. Colt, and others. Two pretty specimens, both male and female, of the Alderney and Hungarian cattle, were shown by Mr. Colt. The latter had the dingy muzzles and drab, mulish dress of the Alderneys. They are, however, hard handlers, and we much doubt, like the institutions of their patriotic countrymen, they are not a full century behind the best type of modern civilisation and improvement.

A good many natives and grade animals were there, and some of them decidedly meritorious. The working and fat cattle were much less numerous than are brought to the show grounds in the middle and eastern part of the state; but there were some of each, it would be difficult to excel. We have never seen a more symmetrical nor beautiful specimen of fat oxen, than the pair of shorthorns, so exquisitely flecked with red and white. When reclining on the ground, a hillock of tulips and hyacinths, carnations and roses, could hardly have exhibited more brilliancy and attractive beauty.

Sheep.—There was not a full show in this department, and especially, among the fine wools, so abundant in this part of the state. There were some noble specimens of the large French Merinos, originally imported by Mr. Taintor, and now owned by the Messrs. Bingham, which shear very large fleeces, and of a good quality. Saxons, as large as the Spanish Merino, also recently imported, were exhibited. Specimens from more than one large native flock were shown, the owners of which assured

us, that, with ordinary keeping and attention, their fleeces had for several preceding seasons, averaged over \$2 per head. Such cannot but be profitable stock to any farmer having soils and locality adapted to them. There was a pretty full representation of the South Downs, and many of them very choice animals. The prizes were divided among the old competitors, Col. Sherwood, Messrs. Rotch, McIntire, and Wakeman. The long wools were also good, but not abundant. This family of sheep are extending rapidly throughout the country, and promise soon to afford us an ample supply for all our growing manufactures of combed wool.

Swine were not very plenty, but such as were on the ground exhibited quite a passable merit. There were delegates from the leading breeds, Berkshires, Lincolnshires, Suffolks, &c.

The Poultry was less numerous than last year, but there were many fine birds, both land and aquatic, that did great credit to their breeders.

Rabbits of formidable proportions, and immense lopped ears, were shown from the warren of Mr. Rotch. Many of these will yield a hind quarter, equal in size, while they surpass in flavor, some of the lambs brought to our market.

Farm Implements.—Of these, there was a large number of very meritorious character. Most of the manufacturers and dealers in plows and farming tools sent in choice specimens of each, and perhaps the show, in this department, has never, on the whole, been surpassed, certainly not in the merit of the articles, if it has been equalled in their numbers.

The Dairy Products, Salt, Maple Sugar, Flowers, Honey, Vegetables, Grain, Seeds, Fruit, Domestic Manufactures, Miscellaneous Fabrics, Needle Work, Embroidery, Paintings, Musical Instruments, &c., were all displayed in their usual profusion and excellence, and did great credit to the skill and enterprise of their exhibitors, and the intelligence and liberality of the great society which has been the means of calling them out.

The Annual Speech, by Amos Dean, Esq., we had not the pleasure of hearing, but it is spoken of as doing great credit to its intelligent author, and well calculated to push forward the career of agricultural improvement throughout the Empire State.

THE SHORTHORN BULL METEOR.—Mr. Vail, of Troy, the owner of Meteor, requests us to say, that he was not entered as extra stock, for competition, at the late show at Albany; but was there merely for exhibition, and was so entered on the State Agricultural Society's books.

TRENCHING OLD ORCHARDS.—If you have any neglected old trees in your orchards, fork or trench up the earth all around their trunks for a distance of four or five feet, and give to each tree at least a bushel of compost, made of equal parts of stable manure and leaf mold or swamp muck. And at the top of this, spread half a peck, to each tree, of charcoal dust, wood ashes, and oyster-shell lime.

REVIEW OF THE AUGUST NUMBER OF THE AGRICULTURIST.

To Postmasters and Others.—Among the "others," if you will include a certain set of dolts and demagogues who block the wheels of Uncle Sam's mail wagon, with high rates of postage, and dray loads of "free documents," until you lash them into a little show of common sense and honesty, so they will amend the law, into something of a common-sense form, and then there will be no occasion for "mistaken mortals" mistaking the rate which they should charge upon the *Agriculturist*; for then, every periodical of every kind, will be rated at one cent for 1,900 square inches of printed matter, whether on white paper or brown, and then we shall be able to get "our paper," with a cover, without being subjected to a ridiculous charge of four cents for a piece of cotton thread four inches long, "stitched" through the paper, making it a "pamphlet." Bah! what nonsense.

Capacity of Soils for Absorbing Fertilising Matter.—If the capacity of the minds of those who own said soils were half as great to absorb that which is beneficial, they would be "deodorised" of a vast amount of offensive matter, and out of this very article absorb an amount of knowledge sufficient to pay for a dozen years' subscription to the *Agriculturist*, if judiciously applied to their business.

Food of Calves.—I believe every word of this, except calling a cow a "dam," and I will believe that, if Noah Webster says I must; but this is the first time I ever heard *dam* applied to a cow in that way. But I can assure the writer that he would have made a much more popular article if he had insisted that "hay tea," "buttermilk porridge," or "sawdust broth," is decidedly better for feeding calves, than the milk of their own mothers. It will not do for an Englishman to talk to us butter-mouthed Yankees in this style, about keeping a portion of cows to make butter and cheese, and another portion to suckle calves. No sir. We will not only feed them on buttermilk and whey, but quarrel with you for disputing that such feed does not make the best calves.

Everything Should be Done Systematically.—Everybody knows that—everybody says that—nobody does it. Yes they do. Some folks are systematically wrong—always wrong—always too late at seeding, and too late at harvest. But is it "reprensible to leave everything where it was last used?" I have a neighbor in my eye now, who, if he would leave that old black jug where he last used it, would leave one thing in the right place, and then he would be likely to have a better plow than he works now; and if he stuck it deep into the soil, that would be in the right place. "That is the doctrine for farmers." Be temperate, frugal, industrious, plow deep, and be happy.

Horse Breeding in Russia.—When will republican America so far imitate despotic Russia, as to establish a national stable for the improvement of the breed of horses, or breed of anything else for the benefit of agriculture? When water ceases to run, wood to grow, and dema-

gogues to talk. Shame on those who have the power to elevate the interests and character of the cultivators of the soil, and do it not. Let us look to Russia for a pattern. I wish all translators of articles from foreign languages would translate the money terms into sums that we can understand. Although told in a note by the editor, the value of "rouble," and a "kopeck," who will stop reading, to cipher out how many dollars and cents there are in "88,625 silver roubles and 88½ kopecks?" Not one in a thousand. Such outlandish terms always spoil the interest of an article. Let them be translated.

Proposed Remedy for Stealing Fruit.—Which, being also translated, means "a good plan to prevent everybody from stealing fruit." I would also suggest that every roadside be planted with fruit trees, instead of those merely useful for shade. The shade of an apple or a cherry tree is as good as the shade of an oak, and grows as soon. If the heathenish, hoggish, highway-robbery system of letting cattle and pigs run at large were abolished, how we might ornament the roadside, and gladden the hearts of travellers with free fruits and flowers. No one, then, would climb the fence to steal. What a blessed country we should have if we would. What a wicked waste of land we now have in our useless roadsides.

In connection with this article, I pray the reader to notice the little item, the "Value of an Orchard." Perhaps you recollect an article published last fall of the profits of a four-acre peach orchard near Newburgh, exceeding that of any other cultivated land in the country, except some garden spot or nursery. Plant trees. If you cannot plant an orchard, plant a single tree; it will be doing good to somebody. It will help make all mankind better, if all plant trees. Who then will steal fruit? Let children be taught in school and around the hearth stone, that, as soon as the buds of spring give promise of early leaves and flowers, they shall each plant a tree, which shall stand as a memento to remind them that "this is my first lesson how to prevent boys from stealing fruit."

The Rolling Stone Gathers No Moss.—A very sensible little item against the universal all-pervading disposition of American farmers to migrate—a disease that is often destructive to life, very often to health, more often to comfort and happiness, and still more often to a systematic course of improvement, by which the "old homestead," that is abandoned on account of its unproductiveness, would become fertile again, and yield a greater profit than some of the rich lands of the west.

There is none, or but little *love of home* among the American farmers. One of the reasons, is, because they change that home so often, there are but few "homes of taste," which, as you say truly, are only to be found where the "Architect of nature" is employed to ornament them. With more abundant cheap materials to form such houses, we probably have fewer of them than any other country on earth, which contains as many intelligent minds as this does. But unfortunately, we have no schools to teach

the "science of farming," and creating such houses; and so our people lack contentment in places that might be like a rural Paradise, because the attractive blandishments of taste are not there; and so they sell at the first "fair offer" and sever the easily-broken links that bind them to home, and away they go to the gold-teeming lands of California, or to some wonderful wheat-growing land in the west, where ague helps them shake off all disposition ever to make such a home of taste as will bind them and their children to it, generation after generation.

To Measure Standing Trees.—There are thousands of American woodsmen that will measure the height of a tree by the eye, as accurately as your French method. "May their shadows never be less."

Irrigation.—What is the use of talking to people, and giving them plans of irrigating land while they contend that "it is no use;" or why talk to them about draining off the water at one season and watering the land at another, while they can "make a living" upon the old let-alone system? "Oh! leave them alone in their glory" of ignorance. Why will you make people unhappy. "Ignorance is bliss."

To Destroy Weeds in Walks.—Capital! A strong way of impressing the name of a substance upon the mind, as the following will illustrate. "Father," said my daughter Mary, (who is somewhat of a gardener,) on reading the article under this title, "I wish you would buy me some chloride of sodium, the next time you go to the city, and I will try to kill the weeds that are constantly springing up in the brick walk to the summer house; as I am particularly anxious to keep that clean, because I notice you often come out there in your slippers of a morning, to have a little chat with your 'pet,' about gardening and farming and such things as you know I am fond of, and in turn, I would like to give you a clean path. So, if you will get the article, I will try the recipe."

"Certainly, my daughter. It always gives me pleasure to do anything to gratify your taste for improvement, and beautify our happy home. Pray, step to my bookcase and bring me a chemical dictionary. Now look for *chloride of sodium*, and perhaps you will not require me to make an especial purchase for your particular use."

"Why, dear me, father, I don't think I shall. Neither do I think I ever shall forget that chloride of sodium is common table salt. What a misfortune it is to be ignorant. But I am sure, father, that my schoolmaster never taught me such things, nor took such a method to salt them down in my memory."

Remarks on Improved Implements.—Does my young friend mean to be understood that a plow cannot be bought for five dollars, that has one word of good sense to recommend it? And that a plow of that cost will only "answer some kind of purpose," that is a good-for-nothing purpose? Such is his language, for he says distinctly, "the cheap plow cannot do the work right, because it never was made right." It is very evident, friend Levi, thou hast never been through

the New-York Agricultural Warehouse, or you would have seen a dozen different sorts of plows at prices under five dollars each, which are "made right" and work right, and as perfectly as your ten-dollar plow.

Great Crop of Hay.—There is a friend at my elbow, who gives it as his decided opinion "that any one must be in a 'green state' to doubt the ability of Connecticut-River lands to produce four tons of hay to the acre, when cultivated according to the dictates of common sense. And yet, there are mowing lots within sight of this one of Mr. Clapp's, owned by men who think they cannot be taught anything about farming, which do not produce four tons in four years. A reading "scientific farmer" cultivates one, an "experienced farmer," cultivates the other. Comment is unnecessary. "Facts are stubborn things." "Experience" may not learn—perhaps his children will.

Your Neighbor's Hens.—Capital! It reminds me of an anecdote in the hen line. Mr. A. kept his hens shut up. He was not going to have his garden destroyed by his own, nor his neighbor's hens. One morning, he saw a couple digging into his early pea bed, and out he went with murder in his heart, but the hens flew over into neighbor B's garden; whereupon A. called over to him very angrily, that he would shoot the next hen he saw on his side of the fence, if B. did not shut them up, which B. declared "he would not do, and if A. was fool enough to shoot them, he might do it, for all he cared." A. was as good as his word, and day after day B. was saluted with the smell of gunpowder, and a message thrown over the fence with every fat pullet, "there's another chicken for your dinner," until at length, not finding the usual supply, B. called over one morning to neighbor A. to know the reason. This awakened inquiry, when it was discovered that A. had been shooting his own hens as they occasionally escaped through a hole in the coop, and in his anger at his neighbor for the supposed trespass, had furnished him with sundry good dinners. No doubt "he was a little mad at first," and thought any "cunning trick" after that, better than shooting his neighbor's hens.

Spaying Sows with Oil of Vitriol.—What next? I pause for a reply.

Cultivation of Orchards.—Upon such land as described, if it is as stony as some lands I wot of in Connecticut, I would dig a trench four feet wide and deep, and fill it half full of loose stones, in a direction that would serve as a drain, whether crooked or straight, and upon this return the soil and set the trees. The difficulty in digging holes in clayey land, for trees, is, that they fill with water, which would be sure to kill the young trees, only that they are so tenacious of life, they live through a deal of bad management.

Starch from Indian Corn.—No doubt this article will surprise many of your readers more than it did myself, because I have concluded not to be surprised at any of the wonderful strides of science, in these latter days. Starch from Indian corn, though one of the last wonders,

will not be likely to prove the least, according to this interesting statement.

Sale of Mr. Bates' Shorthorns.—This seems to have been, although a sale of shorthorns, a sale of long-horn prices. I see one calf was sold at \$330, to come to the United States, an amount that would purchase a hundred and fifty head in some parts of this country. This is a fair show of the difference between improved cattle and scrubs.

Sobright Bantams.—I have no objection to any one amusing himself with a few such fowls as pets. But the disposition to substitute them for the good old sort of domestic fowls, under the plea that their flesh is so tender and delicate, and eggs so sweet, is carrying improvement down hill at a most ridiculous rate. A cock sparrow might show fight, but would hardly be worth the trouble of breeding for any utilitarian purpose.

Shrubby Cinquefoil.—If the spread of this modern enemy of the farmers of Connecticut, should be the means of driving them into a general system of underdraining, as hinted at by Mr. Gold, I should not look upon it as so serious a curse as many of them do. There is no doubt in my mind, but draining will cure the evil, and that, with a system of deep plowing and better cultivation, which is as much needed in that state as any other land on earth, the products will be greatly increased, and farming made so profitable that we shall not need go to Egypt, nor any other outlandish country for corn. I assure you that draining is a better remedy than growing timber to get rid of the cinquefoil.

Mr. Robinson's Tour, No. 20.—"Benefits of Railroads to Agriculture." I don't like to criticise anybody's style, but it does strike me, that, for a title to this article, "History of the South-Carolina Railroad" would have been more appropriate, as that is what it is, and as such is quite interesting, not only as matters of history, but containing a great deal of useful information for the traveller and merchant. By the way, the Agriculturist always contains a great deal of matter as useful to the merchant and mechanic, as to the farmer; and yet they excuse themselves from taking it, because "they have no interest in a farming paper."

To Country Gentlemen.—A capital hit. If I had the wielding of a few thunderbolts, my first object would be to rattle down some of those "great, staring, ill-constructed temples," you speak of; and then I would keep up such a din of thunder around the ears of owners, that they would rear up a "home of taste," and adorn their grounds with animals, the beauties of which would delight the eye, instead of paining it with the view of naked portions full of ill-bred brutes. Come and look at my beautiful Devon cattle, in contrast with the plain old farm house and its furniture.

Ladies' Department.—Here, upon one page of the Agriculturist, you have a dozen articles, any single one of which is worth more than the price of the paper for a year. I wish I knew how to induce my fellow creatures to read.

Every book or paper that I take hold of, leaves something new and often very useful. Ladies, look once more at this page of your particular department for August.

Poultry Management.—Here is an article from the London Agricultural Gazette, of about two dozen lines, that is worth just as much as the whole of some of the family of new "poultry books," which have been hatched out the past year. It is highly deserving the attention of readers.

Mode of Saving Manure.—This should be entitled "a new way to make stable floors;" and a very good way it is, too. I have never seen a description of a better plan for keeping cattle dry. All the urine, of course, will pass off at once. In freezing weather, it will be found to be a most comfortable arrangement for stock. Why has it not been thought of before?

Cultivation of Cotton in India.—Notwithstanding what Mr. Bright, or any other honorable gentlemen may say about "the East Indies being peculiarly well calculated for the growth of cotton," all experience says quite contrary; and there is no doubt but it will continue to be grown in the United States, cheaper, and of a better quality, than any other part of the world, just as it ever has been since the commencement of its cultivation.

Dissolving Bones in Sulphuric Acid.—Now do not forget this. It is a valuable article. It is far less expensive than grinding them.

There is, in every number of this paper so much that is good and useful to comment upon and call back the readers attention to, that I am compelled to leave many articles unnoticed and touch others but briefly, and then, in spite of me, my reviews grow into such length that I sometimes fear I shall remain unread; but if I am I shall not die with grief.

REVIEWER.

—♦♦—
VALUE OF ANTHRACITE COAL ASHES FOR MANURE.—Mr. Bunce, of Yale laboratory, has presented an analysis of the ashes from anthracite coal, to the American Association for the Promotion of Science, recently held at New Haven. He shows conclusively that important ingredients for the growth of plants are contained in these ashes, and though much less valuable than those obtained from wood, yet, they are quite useful for agricultural purposes. We hope such of our farmers as have, or can easily procure them, will not fail to give them a full trial, on different crops and soils, and send us the result of their experience for publication.

—♦♦—
PLOWING AND PLANTING FOR ORCHARDS.—If you design to plant out a young orchard, either this fall or next spring, the ground should now be twice thoroughly and deeply plowed, when not too wet, turning under at the second plowing a liberal coat of compost, formed of swamp muck, charcoal, wood ashes, and oyster-shell lime. At the extreme north, the trees may be planted towards the close of this month, agreeably to the directions given at p. 330, of our sixth volume.

PLOW FOR SUGAR PLANTERS.

MANY of our southern and Cuban friends have importuned us for a larger fluke or double-moldboard plow than we have already made. They have hitherto got them as best they could; some have bought them in France, at a cost of \$50 each, and others have been rudely made by citizen mechanics, or by plantation hands, at a large cost. We have, at last, consented to supply this article, and shall hereafter be prepared to fill all orders for them, on reasonable notice, at prices varying from \$10 to \$20, being about half the price heretofore charged for an inferior article. One of our Louisiana friends told us recently, that he run one of these large hillers, or double-moldboard plows through his sugar cane for the purpose of *laying it by*, or performing the last operation of hilling up the rows by plowing and hoeing. The cane rows were seven feet apart, and the plow was drawn by three mules. Eighteen arpents, (about six sevenths of an acre, each,) per day, were thus plowed, and finished with the hoe, by seven females, by which our informant estimates he saved the labor of eighteen good hands. This is a specimen of economy worthy the consideration of planters.

ENDLESS-CHAIN PUMP.



FIG. 79.

We give above, the cut of a very simple pump, which is fast becoming quite popular with those who have tried it. For any depth not exceeding 25 feet, it works admirably; but when the height to which it is required to raise the water is much beyond this distance, a forcing pump may be substituted. The great advantages it possesses is ease of working, simplicity of construction, economy of price, and impossibility of freezing in winter. Price of pump, complete, from 50 to 65 cents per foot, according to size and length.

GUANO SPECULATORS.

A NUMBER of persons in Baltimore have forestalled all the Peruvian guano to arrive this year, and have raised the price to \$56 per ton, by the quantity, and three cents per pound, at retail. We had made arrangements this fall to furnish the best Peruvian guano, at \$45 per short ton, wholesale, and two and a half cents per pound, at retail; and were it not for this com-

bination to speculate out of the hard earnings of the farmer, we should be able now to offer it at these comparatively low prices. In New York and its neighborhood, we can easily substitute fish and other manures for guano, and thus the effort at extortion will be defeated, so far as this part of the country is concerned; but in Maryland and Virginia, we understand substitutes are not so easily obtained, and the planters there greatly depend on guano for the production of their wheat crops. Notwithstanding this, and the injury they may suffer from the want of this excellent fertiliser, we hope the planters will combine against the speculators, and resolve not to purchase a pound till they reduce the price. By thus doing, they will compel them to sell at lower rates, as there is a demand for guano for no other purpose than to apply to the land; and we are advised of shipments already made, to arrive here in the course of the months of November and December, which will afford an abundant supply for any demand that is likely to occur. Planters will do well to bear this in mind, and turn the tables upon those who seek to tax their hard earnings so unjustly.

SUPERIOR NATIVE APPLES.

We have received three samples of native apples from a friend, in Westbury, Long Island, which we think quite superior kinds. The first is called the "pear-tree-lot apple." It is flat-round in shape, of a bright red-streaked color, and weighs from four to six ounces. It is of a sugary sweet taste, and almost as delicious for baking as the celebrated "belle bonne."

The second specimen is nearly the same shape and color as the first, mingled with a little more green or white. Its weight is from three to five ounces. It is of a delicate sweet taste, and a very fine apple for the table and for fattening stock. It is vulgarly called the "hog sweeting," from its originating on "Hog Island," in Oyster Bay. As they have changed the name of this fine island to the good old Indian cognomen of Syosset, we hope they will also change the name of the apple to "Syosset sweeting."

The third is called the "cream apple." It is of a flat-round shape, pale-green color, slightly flecked with little red spots, and weighs two to four ounces. It is very juicy, with a slightly tart and agreeable spicy flavor. It would be much better for our nurserymen to look up and propagate the best native apples, instead of sending abroad for so many varieties, as they are continually doing. The former, we know something about, the latter are altogether uncertain.

GATHERING AND STORING WINTER FRUIT.—Winter apples and pears should be carefully picked from the trees by hand, packed up in barrels, and stored in a cool, dry room, in which the temperature ranges, as near as possible, to the freezing point. If such a room should eventually become too cold, put them in an airy, dry cellar, sufficiently cool as not to allow them to freeze.

TO OUR FLORIDA FRIENDS.

At the urgent request of many of our friends in this new and enterprising state, we beg leave to inform them, that our travelling agent, Mr. Solon Robinson, will visit them early in December, and remain for several weeks. He will travel there, as he has heretofore done at the south, as agent for the Agriculturist and our Agricultural Warehouse in New York. In his tour, he will make it his undivided object to disseminate information on practical and scientific agriculture, and demonstrate the use of new and improved implements. He will also place himself in the way of learning all that his limited time will permit of the nature of Florida soils, the best methods of culture, practised by her most enlightened planters, and the possibility of introducing the growth of new and superior products. Mr. Robinson will thus act in the double capacity of scholar and teacher; and we bespeak for him such attentions on his tour among this portion of our warm-hearted southern friends, as will be sure to render his sojourn among them both profitable and agreeable.

HEDGE PLANTS OF INDIA.

At a recent meeting of the British Association for the Advancement of Science, Dr. Hugh Cleghorn read a paper "On the Hedge Plants of India, and the Conditions which adapt them for Special Purposes and Particular Localities." The following is the list of plants observed by him in general use:—

Hedge Plants.—*Opuntia dillenii*, *Agave americana*, *Euphorbia tirucalli*, *Euphorbia antiquorum*, *Casalpinia sepiaria*, *Casalpinia sappan*, *Pterolobium lacerans*, *Guilandina bonduic*, *Parkinsonia aculeata*, *Poinciana pulcherrima*, *Mimosa rubicaulis*, *Inga dulcis*, *Acacia arabica*, *Acacia concinna*, *Vachellia farnesiana*, *Epicarpus orientalis*, *Jatropha curcas*, *Pisonia aculeata*, *Capparis sepiaria*, *Capparis aphylla*, *Scutia indica*, *Azima tetracantha*, *Gmelina asiatica*, *Balsamodendron berryi*, *Toddalia aculeata*, *Bambusa arundinacea*, *Bambusa spinosa*, *Bambusa nana*, *Dendrocalamus tulda*, *Pandanus odoratissimus*.

Ornamental Plants Forming Inner Fences.—*Lawsonia inermis*, *Lonicera ligustrina*, *Citrus limetta*, *Morus indica*, *Punica granatum*, *Phyllanthus reticulatus*, *Hibiscus rosa sinensis*, *Adhatoda vasica*, *Adhatoda betonica*, *Graptophyllum hortense*, *Gendarussa vulgaris*, *Gardenia florida*, *Alamanda cathartica*.

Plants Used for Edging Garden Walks.—*Pedilanthus tithymaloides*, *Vinca rosea*, *Heliotropium curassavicum*, *Rosa indica*, *Rosa semperflorens*.

Professor Royle considered this paper a most valuable one, and thought its title by far too modest for its merits. The importance of considering the adaptability of plants to particular soils and climates could not be overrated in all attempts at developing the resources of a country. Plants which would flourish in a rich alluvial soil would not grow in a sandy plain, and

vice versa. It was not always the case that indigenous plants were best adapted for culture in particular countries, and in India, they had many instances of introduced plants growing more vigorously, and extending more widely, than native plants.

PREMIUMS ON ENTIRE FLOCKS OF SHEEP.—We suggest for the consideration of the State Society the propriety of offering a large premium for the most profitable flock of sheep, consisting of not less than one hundred. The profit to be made up of the aggregate sale of the wool and lambs, after fully replacing from the latter the loss by deterioration or death. The quantity of green food or pasturage should be estimated as nearly as possible, and all such as is capable of weighing or measurement, should be accurately ascertained. The expense of time and attention, as well as the annual value in rent of sheds, &c., should also be made an item in the calculation; and from the whole, the result is to be deduced. This, it seems to us, would enable many flock masters to decide the important question, Which is the most valuable breed of sheep?

VALUE OF ROADSIDE PRODUCTS.—The remark was made to us many years since, by a shrewd observer, that the spontaneous products of the roadsides in the vicinity of New York, were frequently more valuable than the adjoining fields. This is no doubt substantially true, for there are dandelions and other herbs for the table, and their roots for the apothecary; the elderberry blossoms for the herbarium, and their fruit for the pastryman and the manufacturer of *genuine* Port wine; the blackberry, the raspberry, the whortleberry, and the berry, that frequently line the roads in boundless profusion, and yield large profits, when gathered for the market, besides numberless other minor and less general products.

STORING WINTER CABBAGES.—Such cabbages, at the extreme north, as you wish to keep through the winter and early spring, may be pulled up by the roots, and arranged in compact rows, with their heads downward, resting on the surface of the ground, so that their stalks will stand upright in the air; then, they may be covered with straw and earth, and treated in every other respect as directed for root crops. Should the weather be unusually warm, the earth and straw should be opened to let in air.

SUBSTITUTE FOR SOAP.—A late French author recommends potatoes, three fourths boiled, as a substitute for soap in washing hands. The use of this prevents chapping in cold weather, and retains the skin soft and healthy.

CHEMICAL FACTS.—Soils may contain silica and alumina; a plant may contain silica, but no alumina. Animals contain neither silica nor alumina.

Ladies' Department.

TO MAKE HOMMONY.

I HAVE so often been asked for our Maryland receipt for making hommony, that I send it to your journal, as the surest method of making it public. Some gristmills have a way of preparing it beautifully, by making a trifling addition to the machinery of the mill, which beats the hommony while the meal is being ground; but many people still prefer the old negro way, and many mills have not the new machinery. I wish I could tell the quantity of water it takes for any given quantity of corn; but the negroes do everything by guess; and when I asked the man who makes it best for me, the only answer I could get was, "jest 'xactly 'nuff, massa, oncy don't let 'em make de corn too wet, dat spiles all."

Take a gum-tree or oak block, "jest 'xactly big nuff," and burn or dig it out to the depth of twenty inches or two feet; rub the hollow clean and smooth, and you have the mortar. A wooden pestle, equally rude, is formed, into the flat end of which drive gently, (for fear of splitting it,) the sharp end of a large-sized wood cutter's wedge; the broad end being thus ready for breaking and hulling the corn. The best corn must be carefully selected and shelled; moisten it well by pouring boiling water over it; when part is broken up and hulled, it should be taken out of the mortar, and fanned, again moistened with boiling water, and put in again; this fanning and moistening, (always with boiling water,) and beating to be continued until it is free from husks. Spread it out to dry, and then sift it, first through a coarse sieve, which will retain only the hommony, then through a fine one, which will retain the grits. The coarse meal that remains is excellent for cakes and puddings. *M.*

ENGLISH vs. AMERICAN GIRLS.

THE English girl spends more than one half of her waking hours in physical amusements, which tends to develop and invigorate, and ripen the bodily powers. She rides, walks, drives, rows upon the water, runs, dances, plays, sings, jumps the rope, throws the ball, hurls the quoit, draws the bow, keeps up the shuttlecock, and all this without having it ever pressed upon her mind, that she is wasting her time. She does this every day until it becomes a habit which she will follow up through life. Her frame, as a natural consequence, is larger, her muscular system much better developed, her nervous system in better subordination, her strength more enduring, and the whole tone of her mind healthier. She may not know so much at the age of seventeen, as does the American girl; as a general thing, she does not; but the growth of her intellect has not been stimulated by hot-house culture, and though maturity comes later, it will proportionally last longer. Eight hours each day, of mental application, for girls between ten and nineteen years, or ten hours each day, as is sometimes required at school,

two hours for meals, one for religious duties, the remainder for physical exercises, are enough to break down the strongest constitution.—*English Paper.*

TOMATOES FOR WINTER USE.

TAKE the largest ripe tomatoes, which wash and drain; cut them across, and lay them with the cut side up, in an earthen or wooden vessel; sprinkle well with fine salt, and with alternate layers of tomatoes and salt; fill your vessel, and let it stand all night. In the morning, pour off the juice, with as many seeds as possible, and throw it away. Put them over the fire, boil slowly until reduced to a pulp, which rub through a sieve, to get rid of the skins. Add to this pulp. Cayenne pepper enough to season it highly, and if necessary, more salt; boil slowly for two hours, or until quite thick; stir well to prevent burning. When cold, put it into shallow, earthen plates to dry in the sun, or a slow oven. When quite dry, put it into glass jars, and if kept in a dry place where it will be free from mould, it will be as good at the end of the year, as when first made. A piece half an inch thick and three inches square will season a gallon of soup.

If wanted for sauce, soak it in warm water, add butter rubbed with crumbs of bread or flour, and stew for a few minutes before serving it.

TO BOIL HOMMONY.—To one quart of hommony, put two quarts of cold water, and a tablespoonful of salt; boil until the water is entirely absorbed. Take it from the fire, cover the pot closely, and set it on the hot ashes for fifteen or twenty minutes, to soak. Serve it in a deep-covered dish, with butter cut into small pieces, on the top. Those who like cream with it, may add half a pint while on the ashes. It is whiter and better tasted when boiled in a pot lined with porcelain, or in an earthen pipkin.—*Exchange.*

HOME-MADE CANDLES.—If you manufacture your own candles, immerse the wicks in lime water, in which a little nitre, (saltpetre,) has been dissolved, and dry them before dipping. The light from such is much clearer, and the tallow will not "run."—*Ibid.*

TO PURIFY MOLASSES.—Boil and skim your molasses before using it. When applied for culinary purposes, this is a prodigious improvement. Boiling tends to divest it of its unpleasant, strong flavor, and renders it almost equal to honey. When large quantities are made use of, it is convenient to prepare several gallons at a time.—*Ibid.*

TO BURNISH BRITANIA WARE.—In burnishing Britannia ware, rub the surface gently, in the first place, with a woolen cloth, dipped in sweet oil; then wash in tepid suds, rub with soft leather and whiting. Articles burnished in this way retain their lustre till the last, if carefully used.—*Ibid.*

Foreign Agricultural News.

By the steamer Asia, we are in receipt of our foreign journals to the 1st of September.

MARKETS.—Ashes have fallen. Cotton, $\frac{1}{2}$ d. to $\frac{1}{4}$ d. per pound, lower. Corn, a trifle better. In other products there is no change.

Quantity of Bonedust Applied per Acre.—Lord Ducie, of England, it is stated, applies from sixteen to twenty bushels of rough bonedust per acre.—*Agricultural Gazette*.

To Destroy Mildew on Grapes.—Dust flour of sulphur on the white spots, the moment they are observable.—*Ibid*.

Death of Delile.—The French journals announce the decease of M. Raffeneau Delile, the celebrated botanist, who accompanied the scientific expedition of Bonaparte into Egypt, and afterwards published an account of the plants observed on that occasion.

Prolific Sow.—We have in our possession a sow that has had, in six successive farrows, the following numerous progeny:—1st, 18; 2d, 18; 3d, 19; 4th, 20; 5th, 17; 6th, 19; making a total of 111 in two years and six months.—*Agricultural Gazette*.

Dairy Management.—Scrupulous attention to cleanliness is an essential of dairy management—the scalding, cleansing, and rinsing of the dairy vessels being of the greatest importance. No stable and drain should be near it, and the cheese itself, where possible, should be separated from it.—*Ibid*.

New Steep for Seeds.—"La Presse," of Paris, speaks of some marvellous wheat obtained by the Messrs. Dusseau, by steeping the seed in some new preparation, which wheat is destined for the purpose. The magnificence of this grain, both in straw and ear, is represented as having excited universal admiration; and it is expected "to do the greatest honor to French agriculture."—*Gardeners' Chronicle*.

The Brazilian Coffee Trade.—Forty-two years ago the annual crop of coffee in Brazil, did not exceed 30,000 bags; and even in 1820, it only reached 100,000 bags. About that time, the high price of coffee in England, superadded to the diminished production in Cuba, stimulated the Brazilian planters to extend its cultivation, and in 1880 they sent to market 400,000 bags, or 64,000,000 lbs.; and in 1847, the enormous quantity of nearly 300,000,000 pounds.

Extraordinary Large Sale.—Some time since, a person in the neighborhood of Keeswick, having several lives of bees to dispose of, and being desirous to attract purchasers, caused a placard to be printed, announcing a sale, with these glaring head lines: Extraordinary sale of live stock, comprising no less than one hundred and forty thousand head, with an unlimited right of pasturage.—*English Paper*.

Temperature at which Eggs Freeze.—An examination of the rates at which heat was lost by the several eggs, exposed to temperatures varying from zero to 10° Fahr., showed that fresh eggs, though they resist freezing longer than any others, lose heat more quickly; and that their resistance to freezing is due to the peculiar property of their albumen, the temperature of which may be reduced to 16° Fahr., or much lower without freezing, although its proper freezing point is at, or just below 32°. Other than fresh eggs lose heat comparatively slowly, but freeze as soon as their temperature is reduced to 32°; fresh eggs lose heat more quickly, but may be reduced to 16° or lower; then, at the instant of beginning to freeze, their temperature rises to 32°.—*Agricultural Gazette*.

Cultivation of Pine Apples.—Maintain an artificial heat in your fruiting pinery of from 70° to 85° by day

and from 65° to 70° by night. This temperature will be exceeded naturally, in hot weather, unless you take means to prevent it, by shading during sunshine, and giving air by night; both of which practices, under skilful management, are good. The thermometer must be your guide as to the time for applying artificial heat, in the morning and evening. The bottom-heat for fruiting pines should be from 80° to 85°, at the depth of 9 inches from the surface. If you cannot obtain this heat by adding a few inches of tan to the surface, between the pots, then it will be necessary to remove the plants, turn the old tan, and add a sufficient quantity of fresh material. We presume that you have no tanks for bottom heat, which would save you this trouble and expense, as well as prevent the plants from being checked every time they are taken out of the pits.—*Gardeners' Chronicle*.

A New Agricultural Plant.—Jute, (*Carthamus capsularis*), is an annual fibrous weed, now extensively cultivated in India, and imported into England for the purpose of manufacturing cotton bagging, carpets, and similar fabrics. It has sufficient strength to adapt it for use as cordage; but its tendency to rot, when exposed to wet, renders it unfit for this purpose. The price, on its first introduction into Europe, was \$150 per ton, now from \$50 to \$75. Another species of this genus, the *C. olitorius*, is also used for the same purpose. As both these varieties are natives of a southern clime, we suggest the propriety of our southern friends testing its cultivation south of the profitable limits for the growth of hemp and flax.

For the purpose of anticipating any inquiries that may be made on this subject, we say we are not aware of any of the plants in this country, and the only way of procuring them, probably, would be through some one visiting, or resident in its native country.

Adulteration of Coffee.—At one of the recent meetings of the Botanical Society of London, a paper was read by Dr. Arthur Hassall, "on the adulteration of coffee." He proceeded to detail, in a tabular form, the results of 34 examinations of coffee of all prices. From these, it appeared that the whole of the coffees, with two exceptions, only, were adulterated; that chicory was present in 31 instances, roasted wheat in 12, coloring matter in 22, beans and potato flour in one, only; that in ten cases, the adulteration consisted of but a simple article, in twelve of two, and in ten, of three substances; that in many instances, the quantity of coffee present was very small, and in others, not more than a fifth, fourth, half, and so on. Contrasting chicory and coffee, it was observed that while the coffee berry contains a quantity of essential oil, visible in small drops in the cells, and upon which the fragrance and the active properties mainly depend, not a trace of any similar oil is to be found in the chicory root. The properties of coffee are those of a stimulant and tonic, with an agreeable flavor and a delicious smell, in all which respects chicory is very greatly inferior. The adulteration of coffee with wheat, bean, and potato, Dr. Hassall considers to be altogether indefensible, since the substances have not one of the properties of coffee, belonging to them, and observed, that if the employment of chicory be deemed in any respect desirable, it should be sold openly, and not as at present, surreptitiously, and under the names of Ceylon, Berbice, Costa Rica, and Mocha Coffees, &c. The paper concluded with a hint addressed to coffee drinkers, that the coffee should be ground fine, in order to facilitate the liberation of the essential oils contained in the cells of the berry, and that an infusion, and not a decoction of it should be made, in order that the perfect flavor may be obtained.

Editors' Table.

IMPROVEMENT OF LONG-ISLAND LANDS.—On the 28th of May, on our journey to Ronkonkoma Lake, a beautiful sheet of water some 50 miles from New York, we stopped at Lake-Road Station, on the Long-Island Railroad, where a clearing of several acres had been made, and a commodious house erected for a hotel. The land had just been grubbed, (cleared of stumps and roots,) and was in process of being spaded with about twenty loads of barnyard manure applied to the acre. We again visited the same place on the 22d of August, and found the land a perfect garden, containing almost every description of culinary vegetable, of a heavy yield, and of the finest growth, and among them several acres of as good corn and potatoes as could be found on the island. No unusual pains, we are informed, were taken in the cultivation, which clearly shows that these lands are capable of yielding all that we have attributed to them.

THE FARMER'S GUIDE TO SCIENTIFIC AND PRACTICAL AGRICULTURE, No. 8, containing the first part of Professor Norton's American Notes, has just been published by Leonard Scott & Co., 79 Fulton street, N. Y. Price 25 cents.

EXECUTOR'S SALE OF STOCK.—We desire to call particular attention to the sale of Devon cattle, South-down sheep, and Suffolk swine, advertised at page 327. They were mostly imported or bred by the late Mr. William Stickney. Judging from what we have seen of their produce, they must be fine specimens of their kind. We hope to see a large attendance at the sale, as it will afford such an opportunity to purchase as does not often occur.

PENALTY FOR GROWING THE CANADA THISTLE.—The legislature of Wisconsin has recently passed an act by which any owner or lessee of land, who shall knowingly permit the Canada thistle to go to seed on such land, is deemed guilty of a misdemeanor, and on conviction thereof, to be punished by a fine not exceeding five, nor less than one dollar, with costs.

A NEW IDEA.—At one of the iron mines in Lehigh county, Pennsylvania, where the water is drawn out of the mine by mule power, one of the animals refuses to work, unless he is ridden. To save a hand, they have mounted upon him an artificial monkey, and he works steadily, perfectly satisfied.

THE WHEAT CROP.—The wheat crop of four of the largest grain-growing states in the Union—Indiana, Michigan, Ohio, Iowa—is said to be equal in quantity and quality, to that of any preceding year. It is said that the surplus crop of Michigan will more than double the largest yield ever produced in that state.

WHEAT FROM DRILL CULTURE.—We understand that Mr. Andrew Y. Moore, of Schoolcraft, Michigan, has harvested by a harvesting machine, which reaps, threshes, cleans, and bags the grain, 280 acres of wheat in seventeen and a half days. The wheat was sown in drills nine inches apart, and was unusually stout, although there was a great deal of wet weather the past season, which prolonged the time of harvest.

AN EXTRAORDINARY COW.—Mr. Henry Smith, of Astoria, Long Island, has a Dutch cow, eighteen years old, that has not had a calf for two years, and yet she is giving sixteen quarts of milk per day. In her prime, she gave thirty-eight quarts per day. She has had fourteen calves, none of which were twins. If any one has a cow equal to this, we should be glad to hear from him.

GREAT PEACH TRADE.—It is estimated by those engaged in selling peaches in this city, that 75,000 to 80,000 baskets came to market on the 4th of September.

THE NATIONAL TEMPERANCE OFFERING, and Sons and Daughters of Temperance. Gift for 1851. Edited by S. F. Cary, M. W. P. of the Sons of Temperance of North America. New York: Richard Vandeen, 1850. Even in this book-making age, a good book is a jewel. The design of this elegant volume, seems to be, to add to the stock of pure temperance literature, already before the public, and to encourage those engaged in that great reform so full of blessings to the present, and promise to future generations. The book has been got up in elegant style, and finely illustrated with portraits of some of the most prominent reformers of the age. We bespeak for it a great sale, as a reward to the enterprising publisher.

VIRGINIA COPPER AND FARMING LANDS.—A correspondent and friend has written us several times, relative to what he deems very valuable copper mines and farming lands in and near Farquhar and Warren counties and their neighborhood. The offers made for selling, in whole or part, or for loaning money on the property, seem to us highly favorable for men of enterprise and capital, and any such, wishing further information on this subject, can receive it by calling on us personally.

BARK LICE ON ORANGE TREES.—A friend called upon us a short time since, with the agreeable intelligence that we had saved the orange trees of the south. Not readily comprehending the occasion of our hitherto unheard of success, a closer investigation led us to believe we may have been instrumental in effecting some benefit, on a few of the plantations in Louisiana. The orange louse, has for many years produced great havoc on the trees in most of our southern states, and one who was particularly afflicted in this way, called on us in New Orleans, some three or four years since, for a remedy. Not having any personal experience in the matter, we suggested that these parasites, like lice on starving or diseased cattle, were the result of scanty, or uncongential food, (soil,) exhausted, perhaps, of some of the properties essential to giving vigorous and healthful growth to the tree.

Upon this hint he acted; and by digging about the roots, and manuring plentifully with compost, barnyard manure, ashes, and lime, he speedily secured a vigor that sent the whole of the marauders beyond the reach of further harm.

THE NEW PATENT MOUSE TRAP.—The August number of the Journal of the Franklin Institute contains the specification of a patented mouse trap. The improved mode of body snatching is as follows:—A savory piece of toasted cheese is suspended on a hook. Enter rat. A small mirror is so adjusted, that the rat sees his shadow in the glass, (just as Richard did,) and not recognising himself at first sight, thinks that some other rat is aiming for the cheese. He rushes in to head off his rival. The board he treads on is a deceiver. It is supported by a weak spring, (probably a patent truss,) which yields under his weight, and precipitates him into a lower story of the trap, when the floor flies up to resume its place. Another rat comes along, sees the reflection of his predecessor, as well as his own, and thinks two rats are fighting for the cheese. In he goes—down he goes, and so on, *tollies quoties*.

The advantages of this trap are obvious. It economises cheese. It saves the animal alive, and affords to mankind and dog kind, the pleasure of subsequently killing him at their leisure. It teaches a useful lesson. Rats should study optics. They should learn to know themselves, and know their own face, when they see it in a glass. Hence our man rats are now beginning to crook their long hairs around their lips, and give them a characteristic curl, so that they may identify themselves by using a hair lip for an earmark.—*Pennsylvanian*.

Review of the Market.

PRICES CURRENT IN NEW YORK, SEPTEMBER 18, 1850.

ASHES, Pot.....	100 lbs.	\$6.12	@	\$6.19
Pearl.....	" do.	6.00	"	6.12
BALE ROPE.....	" lb.	9	"	11
BARK, Quercitron.....	" ton.	38.00	"	41.00
BEANS, White.....	" bushel.	75	"	1.25
BEEFWAX, American, Yellow.....	" lb.	20	"	25
BOLT ROPE.....	" lb.	10	"	11
BONES, American.....	" bushel.	45	"	55
BRISTLES, American.....	" lb.	25	"	65
BUTTER, Table.....	" lb.	15	"	25
Shipping.....	" "	9	"	15
CANDLES, Mould, Tallow.....	" "	10	"	13
Sperm.....	" "	25	"	50
Stearine.....	" "	25	"	30
CHEESE.....	" "	5	"	10
COAL, Anthracite.....	2,000 lbs.	6.00	"	6.50
CORDAGE, American.....	" lb.	11	"	13
COTTON.....	" lb.	10	"	15
COTTON BAGGING, Am. hemp.....	" yard.	15	"	16
FEATHERS.....	" lb.	27	"	35
FLAX, American.....	" lb.	8	"	9
FLOUR, Ordinary.....	" bbl.	4.25	"	5.00
Fancy.....	" "	5.25	"	6.75
Richmond City Mills.....	" "	6.50	"	6.75
Buckwheat.....	" "	—	"	—
Rye.....	" "	3.00	"	3.12
GRAIN—Wheat, Western.....	" bushel.	1.00	"	1.40
" Red and Mixed.....	" "	60	"	1.00
Rye.....	" "	62	"	64
Corn, Northern.....	" "	63	"	66
" Southern.....	" "	59	"	63
Barley.....	" "	80	"	85
Oats.....	" "	39	"	45
GUANO, Peruvian.....	2,000 lbs.	—	"	60.00
Patagonian.....	" do.	—	"	40.00
HAY, in Bales.....	" 100 lbs.	50	"	60
HEMP, Russia, Clean.....	" ton.	200.00	"	205.00
American, Water-rotted.....	" "	160.00	"	200.00
" Dew-rotted.....	" "	140.00	"	175.00
HIDES, Southern, Dry.....	" "	9	"	10 1/2
HOPS.....	" lb.	10	"	20
HORNS.....	" 100.	2.00	"	10.00
Smoked.....	" 100 lbs.	4.38	"	4.75
LEAD, Pig.....	" lb.	5	"	7
Pipes for Pumps, &c.....	" bbl.	3.00	"	3.37
MEAL, Corn.....	" gallon.	23	"	30
MOLASSES, New-Orleans.....	" lb.	7	"	10
MUSTARD, American.....	" bbl.	2.00	"	2.25
NAVAL STORES—Tar.....	" "	1.25	"	1.75
Pitch.....	" "	1.15	"	1.35
Rosin.....	" "	2.44	"	2.75
Turpentine.....	" gallon.	30	"	33
Spirits of Turpentine.....	" "	1.50	"	1.60
OIL, Linseed, American.....	" "	72	"	75
Castor.....	" "	1.50	"	1.60
Lard.....	" 100 lbs.	1.25	"	1.50
OIL CAKE.....	" bushel.	75	"	1.25
PEAS, Field.....	" 2	2.00	"	2.25
Black.....	" ton.	2.00	"	2.75
PLASTER OF PARIS.....	" 300 lbs.	1.12	"	1.25
Ground, in Barrels.....	" bbl.	8.00	"	10.00
PROVISIONS—Beef, Mess.....	" "	5.00	"	7.50
" Prime.....	" lb.	6	"	12
" Smoked.....	" "	4	"	6
" Rounds, in Pickle.....	" bbl.	10.00	"	12.00
Pork, Mess.....	" "	6.50	"	10.00
" Prime.....	" lb.	6	"	7
Lard.....	" "	3	"	4 1/2
Bacon Sides, Smoked.....	" "	3	"	4
" in Pickle.....	" "	5	"	9
Hams, Smoked.....	" "	4	"	7
" Pickled.....	" "	3	"	6
Shoulders, Smoked.....	" "	3	"	5
" Pickled.....	" 100 lbs.	3.25	"	3.75
RICE.....	" sack.	1.25	"	1.60
SALT.....	" bushel.	20	"	35
" Common.....	" lb.	6 1/2	"	35
SEEDS—Clover.....	" bushel.	2.00	"	2.50
Timothy.....	" "	1.60	"	1.65
Flax, Clean.....	" lb.	3	"	—
SODA, Ash, (50 per cent. soda).....	" "	1	"	—
Sulphate Soda, Ground.....	" "	5	"	7
SUGAR, New-Orleans.....	" ton.	35.00	"	37.00
SUMACH, American.....	" lb.	7	"	8
TALLOW.....	" "	3	"	11
TOBACCO.....	" "	15	"	20
Eastern, Seed-leaf.....	" "	15	"	60
Florida Wrappers.....	" "	25	"	27
WHISKEY, American.....	" gallon.	25	"	29
WOOLS, Saxony.....	" lb.	40	"	40
Merino.....	" "	35	"	40
Grade Merino.....	" "	30	"	35
Common.....	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,600 beefs, (900 southern, the remainder from this state), 60 cows and calves, and 5,000 sheep and lambs.
Beefs.—Sales of good retailing qualities at \$5.50 to \$8. About 200 would remain over unsold. Market dull.
Cows and Calves.—Market active. Sales at from \$5 1/2 to \$27 \$50 to \$36, as in quality. All sold.
Sheep and Lambs.—Sales of sheep at from \$1.12 to \$4.75; Lambs, 87 1/2 cents to \$3. Left over, 1,200. Sept. 16.

REMARKS.—Potatoes have rotted to a considerable extent in most of the Eastern States. The price has consequently gone up somewhat. Corn is now out of the way of frost, and with few exceptions grows a decidedly good crop. Cotton is no longer doubtful. Had not an unusual breadth of land been planted, the crop would have been far short of the demand. Sugar, Rice, and Tobacco promise fairly.

TO CORRESPONDENTS.—Communications have been received from L. Durand, J. Samuel L. Thompson, A Young Farmer, Hugh Enton.

ACKNOWLEDGEMENTS.—Revue Horticole, from Paris; Premium List of Buck's County (Pa.) Agricultural Society for 1850, from Thomas Warner; Premium List of the Fairfield-County, (Ct.) Agricultural Society for 1850; Cobbin's Illustrated Domestic Bible, from Samuel Hueston, No. 1, 2, and 3.

SELLING OFF TO CLOSE THE BUSINESS.—Linnaean Botanic Garden and Nursery, late of William Prince, deceased. Flushing, Long Island, Near New York. WINTER & Co., Proprietors.

The proprietors have still remaining, a very considerable stock and variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., which they will dispose of for cash, at a reduction of 25 to 50 per cent. and upwards, from the usual prices, according to kind and quantity. Descriptive Catalogues, gratis, on application, post paid.

Apple trees, two to four years old, from \$6 to \$10 per 100. Pear trees, two to four years old, \$3 to \$50 per 100. Cherry trees, two years old, \$13.50 per 100. Orange Quinces, three and a half to five feet, \$12.50 per 100. Black Hamburg and other Foreign Grape Vines, extra strong plants, \$5 per doz. Two-year old seedling Plum Stocks, \$7 per 1,000.

WINTER & CO.

TO PLANTERS.—Wants a situation as Farm Overseer—a Scotchman, about 35 years of age, married, who has a thorough practical knowledge of agriculture, in all its branches, as also, the management of stock; has had very extensive experience in the management of shorthorn cattle and sheep, and also in draining; has been about four years in America, can produce the most unexceptionable testimonials as to character and abilities, and would endeavor steadily to forward his employer's interests. Apply, post paid,

A. FAIRGRIEVE,

oil*

Barnstable, Mass.

BONE MILL.—For sale, one Bone Mill, for horse power, complete, capable of grinding from 150 to 300 bushels per day. Also, a Steam-Power Mill, capable of grinding from 500 to 1,300 bushels per day. Engine of 16-Horse Power, with two boilers, of 25-Horse Power, all complete. Apply by letter, or otherwise, to

ALEXANDER HORNEY,

26th St., 9th Avenue, New York.

N. B. The Horse Power will be sold cheap.

oil*

NEW-ORLEANS AGRICULTURAL Warehouse, comprising a large assortment of Plows, Harrows, Cultivators, Fanning Mills, Corn Shellers, Corn and Cob Crushers, Straw Cutters, Ox Shovels, Ox Yokes, Grain Threshers, Corn Mills, Axes, Hoes, Shovels, and other Agricultural Implements. Also, Gardening Tools, Guano, Plaster, Rock Salt, &c. &c. Orders will be executed for every article wanted by Planters.

In tr GEO. W. SIZER, cor. of Magazine and Poydras sts.

NEW-OXFORDSHIRE LONG-WOOLLED Bucks for sale.—The subscriber has about 40 Long-wooled Bucks, which he will dispose of at any time when called for. This flock, which has been bred from some of the best ever imported, is so well known that they need no further description than to say that they continue to yield their very heavy fleeces—from 9 to 16 lbs. of washed wool; and when full fattened, will weigh upwards of 300 lbs. alive. This breed of sheep is remarkably healthy, very prolific, and make a profitable cross with the various breeds of this country, doubling their weight of wool and mutton. The price will be from \$30 to \$75 for Bucks, and \$25 to \$30 for Ewes, according to their quality. Gentlemen are invited to call and see for themselves, or communicate by mail.

Jy 4

CLAYTON B. REYNOLD, Delaware City, Del.

COCHIN-CHINA FOWLS.—For sale, a few pairs of Cochin-China Fowls, from John J. Taylor's importation, from Shanghai. Price \$5 per pair, delivered in New York.

E. BLANCHARD, 123 Fulton st., N. Y.

THE AMERICAN LIVE-STOCK INSURANCE COMPANY, Vincennes, Indiana.

Charter Unlimited. Granted January 2d, 1850.

CAPITAL \$50,000!

For the Insurance of Horses, Mules, Prizé Bulls, Sheep, and Cattle, of every description, against the combined risks of Fire, Water, Accidents, and Disease.

Losses paid in 30 days after proof of death.

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Agents solicited throughout the Union. Address B. S. WHITNEY, Sec'y., Vincennes, Indiana. my 1y

LONG-ISLAND LAND FOR SALE—10,000 acres.—The undersigned is engaged in improving and cultivating the wild lands of Long Island, on the borders of the Long-Island Railroad, about 50 miles from the city of New York, at Lake Road, or Irvington. Several years' experience, and a thorough knowledge of the soil and its capabilities to produce, enable him to say confidently, that these lands are equal to any land on Long Island when cultivated in the same manner. That all kinds of fruit, grain, and vegetables, that are produced on any part of the island, can be raised upon these lands, which are now offered for sale in parcels to suit purchasers and settlers, from small lots of a few acres to 100, 1,000, or even 10,000 acres. To capitalists, or persons desirous to purchase a large tract of valuable land, well situated, of easy access to the best markets in this country, in a perfectly healthy climate, in the midst of a great game region, the woods abounding in deer and wild birds, whilst the neighboring bays and waters of the island are filled with wild fowl and fish in great abundance and variety.

One of the finest trout streams of the island runs through this land, and in the north parts of the tract, is the famous Konkoma Pond, or Lake, one of the most beautiful sheets of water that can be found anywhere, of about three miles in circuit, the shores and banks of which are pleasant and picturesque in a high degree.

Persons settling here, have all the advantages of growth and rise of property of a new country, with all the privileges of an old-settled country, as by a ride of three to five miles, churches and schools of various denominations may be found, of more than 100 years' standing. Title perfect, and will be sold on advantageous terms, and at a low price.

Apply to A. B. ALLEN & Co., 191 Water st., N. Y., DEWEY & WOOD, 83 Nassau st., N. Y., or EDGAR F. PECK, 306 State street, Brooklyn, N. Y. my 1y

THE FARMER'S ENCYCLOPEDIA.—By C. W. Johnson. Adapted to the United States, by G. Emerson. Philadelphia, 1850. One large octavo volume, 1,173 pages, with numerous plates, exhibiting Live Stock, Improved Implements, etc., etc. This book, which forms a library in itself, contains the latest discoveries and improvements in agriculture, together with information upon all subjects connected with practical farming and rural life.

OPINIONS OF THE PRESS.

"We are fully convinced that such an amount of valuable knowledge for farmers, can be found in no other work in so cheap and convenient a form. In fact, no farmer who pretends to be well informed in his profession, should be without this book."—*New Genesee Farmer.*

"An excellent work, fit to be distributed for premiums by Agricultural Societies. How much better, and in better taste than the amount of costs in money?"—*J. S. Skinner.*

For sale by C. M. Saxton, 123 Fulton st., New York, and the principal booksellers in the United States, elegantly and strongly bound, with gilt emblematical designs, making an ornament to the book case, or parlor table. Price \$4. Cost of the imported copy, without any plates, \$14. sept. 3t em.

EQUITY LAND SALE.—Will be sold on the 14th day of October next, (being Monday of October Superior Court for Perquimans County,) before the Court House door in the town of Hertford, the lands belonging to the late Edmund B. Skinner, deceased, lying on the south-west side of Perquimans River, between that river and Menzis Creek, in the part of the county known as Harvey's Neck. The tract known as the Home Place contains 360 acres more or less, 298 of which are cleared, and in a fine state of cultivation. The fences around and on the plantation are good and in good order. The buildings are many of them new, and all are in good order. The dwelling house, nearly new, is large and commodious, there are two cisterns, built of brick and cement, with filters. One other tract, known as the Lanston and Parsons land, adjoining the above described tract, contains 657 acres, of which 270 are cleared, and in a fine state of cultivation. Both said tracts are situated on the river.

Terms are one and two years credit, with interest from 1st day of January, 1851. Bonds, with approved security will be required of the purchaser. H. C. M. E.

Hertford, N. C., July 16, 1850.

sept. 2t*

GREAT SALE OF IMPORTED STOCK,

at Westminster Vt., on the 9th day of Oct. 1850. The Administrators of the estate of the late William Stickney, of Boston, will sell at public auction, on Wednesday, October 9th, at his farm, in Westminster, Vt., the live stock on said farm, being all imported animals, with their descendants. Among which are the following, namely,

1. Sixty head of superior Devon Steers and Heifers, from one to three years old. Many of the Steers are well mated and well broken.
2. One Imported Devon Bull, 7½ years old, lately imported.
3. One fine Devon Bull, seven years old, bred by Geo. Patterson, Esq., of Maryland.
4. One yearling Devon Bull, bred on the farm.

SIXTY SUFFOLK, MIDDLESEX AND ESSEX SWINE.

1. Five Imported Boars, of these breeds, one to three years old. Splendid animals.
2. Six or eight Imported Sows. These are, or will be, with pig.

3. About Fifty Swine of these fine breeds unaltered.

THIRTY SOUTHDOWN SHEEP.

1. One lot South Downs, Imported.
2. do. do. Purchased of the Hon. Daniel Webster.
3. do. do. " Col. J. M. Sherwood.
4. do. do. " bred on the farm.

All the animals here offered, were purchased in England, or of the best breeders in this country, without regard to cost, and with great judgment; or were bred with much care on the farm.

Any further information will be cheerfully furnished on application in person or by letter, to WILLIAM S. KING, Woodland Farm, Mantion, R. I. or to

o 1t ISAAC S. CLIMBER, Administrator, Boston, Mass.

POSTPONED SALE of Full-bred Shorthorns and

Improved Dairy Stock.—Owing to affliction in my family, I have postponed the Annual Sale, which was to take place in October, 1850, until the 25th of June, 1851. I also decline selling any stock by private sale, so as to offer the public, at auction, all the animals I have to part with, without having any previously selected from the herd, and all animals offered will be sold without reserve. My new importations of Shorthorns, Devons, Southdown Sheep, and Hogs will arrive sometime during the fall. Timely catalogues, with full descriptions of each animal, will be published in the principal Agricultural Journals.

L. G. MORRIS.

Mount Fordham, Sept. 16th, 1850.

o 1t

A NEW HARDY CLIMBER.—The new and beautiful Climber, *Cestegia pubescens*, recently introduced from China by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter, without the least protection. Trained to a single pillar, say ten feet in height, it is a very striking and beautiful object, from the middle of June to cold weather, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental, planted in patches, like the verbenas, makes an admirable screen, and is very effective in young plantations, belts, or shrubberies, trailing prettily on the surface, and running up among the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting Cemeteries and Public Gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start them under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order, by mail or express, October 30th, tubers sufficient for 100 plants at \$5; for 50 plants, \$3; with directions for propagation and culture. Strong plants in pots in April, \$1 per pair.

B. M. WATSON.

Old-Colony Nurseries, Plymouth, Mass., Sept. 1st, 1850. o 2t

GREENHOUSE PLANTS, VINES AND Roses. Parsons & Co. offer for sale every desirable variety of Greenhouse Plants, and many valuable novelties recently introduced from Europe. Attention is particularly directed to their fine stock of *Camellia* wilder, the perfection of whose form is not attained by any other variety. The original stock, both of this and C. Abbey Wilder, is in their possession.

Growers of Grapes are invited to examine their Vineries, now in full fruit, and from which they can furnish good vines of about forty varieties, at

- 50 cents for those one year old.
- 75 " " two years old.
- \$1.00 " of extra size.

Their stock of saleable roses includes some thousands on their own roots of the Remoutant, Bourbon, China and Garden Roses, in their various sub-classes. Catalogues furnished gratis on application to Flushing, near N. Y.

PARSONS & Co.

LOSSING'S PICTORIAL FIELD BOOK OF

The Revolution, No. 6.—Just published by Harper & Brothers. Price 25 cents per number. For sale by C. M. SAXTON, 123 Fulton St. o 1t

NEW-YORK

AGRICULTURAL WAREHOUSE AND SEED STORE,

A. B. ALLEN & CO. 189 AND 191 WATER STREET, NEW YORK.

THE SUBSCRIBERS keep constantly on hand, and offer for sale the largest and most complete assortment of Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, among which may be found the following:—

WATER WHEELS—of various sizes, for raising water, made entirely of metal.

CIDDER MILLS of simple construction, and capable of grinding fine, and in the most rapid manner.

MILL FOR GRINDING BONE-DUST.—For sale, a second-hand mill, to be driven by horse, steam or water power.

WINTER WHEAT.—Etrurian, Mediterranean, White Flint, and several other varieties, of the best and most improved kinds of Winter Wheat for sale.

TIMOTHY, fresh reaped, a choice article.

BLUE GRASS, Fresh Kentucky, just received, suitable for lawns, and early and late pastures.

CLOVER, both Red and White, free from all foul seed.

WAGONS.—Single or double of any required shape. Also, Axles and Wheels.

CARTS.—Hand and Ox Carts, and Wheels of different sizes, made of the best material at short notice.

GUANO AND OTHER FERTILISERS, constantly on hand and for sale on reasonable terms.

GUANO.—Genuine Peruvian of the best quality.
BONE DUST.—of superior quality, in barrels.
PLASTER.—Ground Plaster, in barrels.
POUDRETTE.—at manufacturers' prices.

FOREIGN SEEDS, of superior quality and late importation.

GRASS SEEDS.—Ray Grass, Lucern, and White Dutch Clover Seeds.

GARDEN SEEDS.—A large stock selected with care, expressly for the American Market.

ENDLESS-CHAIN PUMPS of all sizes, to be furnished complete, or in either of their parts, both in large and small quantities.

HIGHLY IMPROVED FORCING PUMP and Garden and Fire Engine, a better and cheaper article than ever before offered in the New-York or any other market, to be sold in any quantity.

NEW AND HIGHLY IMPROVED LACTOMETERS.—We have just got up a new article of cream gauge, far better and more accurate than any heretofore made. Price \$5, with a liberal discount to dealers.

CHEAP SOUTHERN PLOWS.—Nos. 10, 11, 12, 14, 15, and every variety, including several new and highly popular kinds, for sale in large quantities.

ROOT FULLERS.—A useful instrument for drawing out bushes, roots, and small stumps.

VEGETABLE BOILERS, used for boiling food for stock, holding from 15 to 120 gallons.

PREMIUM FANNING MILLS.—These machines considering the simplicity of their construction and efficiency of all their operations are the best in use.

SAUSAGE CUTTERS AND STUFFERS.—These will save nine tenths of the labor in cutting sausage, or other mince meat.

EAGLE PLOWS.—Many plows having been sold under the name of the *Eagle Plow*, which are not genuine, this is to give notice that all plows sold in this city under that name, to ensure confidence, will have our name marked on the beam, and no others purchased here can be relied on as genuine without this brand.

Be particularly, also, as to the name, number, and street, which should be

A. B. ALLEN & CO., 189 and 191, Water st., New York.

BRICK MACHINES of the best construction, will make 10,000 to 15,000 bricks per day by hand.

GRAIN MILLS.—Steel and Cast-Iron Mills at \$6 to \$25, and Burr-Stone at \$75 to \$350, for Horse or Steam Power.

PUMPS.—Suction and Forcing Pumps of all sizes with pipe, at lowest manufacturers' prices.

CORN AND COB CRUSHERS of different varieties, efficient and durable both for hand and horse power.

RICE THRESHERS, suitable for large or small Plantations, and adapted to Wheat, Rye, Barley, and Oats.

WHEELBARROWS, Canal and Coal Barrows, of various kinds and sizes.

STRAW CUTTERS of every approved pattern and size, for hay, straw, corn and cane stalks.

CORNSHRELLERS.—Several new styles recently made, together with all the old and most popular kinds.

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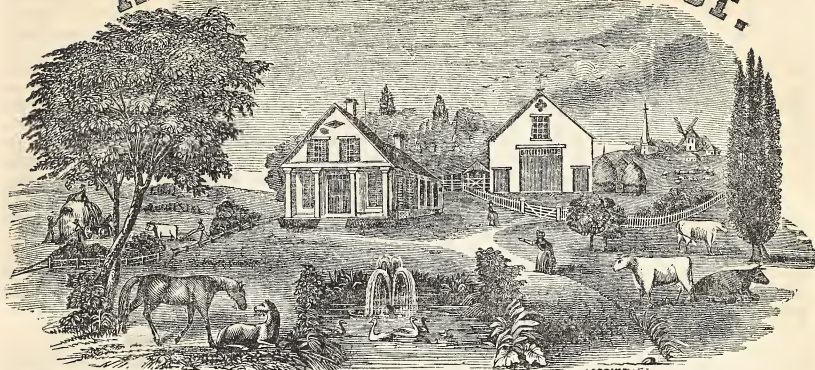
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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ESPALIERS.

JUDGING from our own experience, and what we have seen of espaliers in the United States, growing fruit trees in this form, as a general rule, may be considered a failure. They do well in the cool, moist climates of Northern Europe, but an American sun is too hot for them. We have often watched the different effects of the sun upon espaliers and standard trees in the same exposure. The espalier presents, with its trained top, little surface to benefit from the copious dews of summer, nor can its leaves usually give much shade to the branches, and none at all to the trunk. Hence, almost immediately after the rising of a clear sun, the little dew on the leaves is absorbed, and the trunk and branches are exposed all day to its fervid heat. Shrivelling of the trunk and branches, cracking of the bark, and various diseases follow, from which the better moistened and shaded standard is entirely free. This presents a large surface to the falling dew, and what is not absorbed by the leaves during the night for the benefit of the tree, is very gradually dissipated by the morning sun. The thick leaves of the top, then, are a protecting shade to the branches and part of the trunk all day; and thus standards are much better guarded from the extremes of heat and cold, of drouth and wet, than espaliers.

CEMETERY OF THE EVERGREENS.

At the invitation of Mr. A. P. Cumings, one of the principal directors, and in company with several other gentlemen, we recently made an excursion to this delightful retreat for the dead. The grounds occupy about 212 acres of the highland ridge, and its sloping sides, which form the rear of Brooklyn and Williamsburgh, being distant from Fulton Ferry about five, and from Williamsburgh about three miles. It is in contemplation to add another 100 acres to the premises, which will make the grounds somewhat larger than Greenwood. Most of it is yet in wood and small patches of open land, as left by the former occupants. Yet, in the brief space it has been in the hands of the present managers, it has assumed an air of taste and refinement peculiar to all our recently-arranged rural cemeteries. A beautiful granite, rustic lodge marks the entrance. The approach to it is indicated by a tasteful copse of native trees, on either side of which a slightly circling road ushers one into the broad, graceful avenues which wind and turn in every direction, over hill and dale till one is lost in a labyrinth of rural scenery. On the summit of the ground, and not far from the entrance, is a small chapel in the Norman style, on one side of which a tower rises to the height of 80 feet. To say the view from the top of this is beautiful, would be faint praise. It is not only beautiful, but beautifully grand—magnificent. On one side, Brooklyn, Williamsburgh, Ravenswood, the East River, New York, and the Palisades beyond, are in full view, while on the other, at your feet, lie East New York, and beyond, Jamaica, and still further off are Rockaway and the broad

Atlantic. We noticed the burial place of one little child, only, in this vast receptacle of the future dead. All now is tenantless and forsaken. What a change will a few years witness. Then, the bustling multitudes that now throng our crowded streets, the gay and depressed, the idle and the busy, the rich and the poor, the hopeful and the despairing will all have "shaken off their mortal coil," and noiselessly, one by one, not as now, thronging the abodes of pleasure or of praise, they will silently come and lie down in their narrow couch. What a teeming multitude will be here only a short century hence! Not only every one now alive will have gone to his last resting place, but most of all who may be ushered into life within the next 50 years to come. Truly, wisdom calleth upon us from every hedge and bye way of life, to speed on our purposes of good, for "the night cometh wherein no man can work."

SPECIAL MANURES.

FROM a small pamphlet by Mr. J. B. Lawes, we condense a few words of "Advice on Artificial Manures:"—

1. *Plants Cultivated for their Primary Organs—Leaf and Stem.*—Manures suitable for meadow grass, clover, cinquefoil, tares, cabbages, and other fodder plants. Substances yielding ammonia rapidly. *Sources.*—Peruvian Guano, sulphate and muriate of ammonia, dung from stall-fed cattle, salts of lime, with phosphate of ammonia, soot.

2. *Plants Cultivated for their Intermediate Organ—Bulb or Tuber.*—Manures for turnips, mangel wurtzel. Phosphates, sulphates, and carbon. *Sources.*—Inferior sorts of guano, superphosphate of lime, well-rotted dung.

3. *Plants Cultivated for their Ultimate Organs—Seed.*—Manures for wheat, barley, oats, peas, beans, tares, and clover seed. Organic matter, slowly yielding ammonia. *Sources.*—Residue from highly-manured green crops, rape cake, dung from stall-fed cattle.

Under class 1, meadow grass should be manured with a substance like Peruvian guano or soot, while the clover should receive, in addition, a salt of lime. In class 2, mangel wurtzel may receive a larger amount of nitrogenised matter than turnips, as it does not readily produce leaves. In class 3, oats and beans are less liable to injury, from too large an amount of manure, than the other crops. About three or four cwt. of rape cake drilled below the seed, or broadcast, is often very beneficial to the wheat crop.

DEPRAVED APPETITE.—One of the most singular, though by no means uncommon instances of this disease in this country, is to be found among the clay eaters of North Carolina. Children acquire the habit while young, and continue it through life. Its effects are very injurious. Horses and cattle sometimes acquire the habit. Whether the same injurious effect attends the animals, we are not aware, but it is often unpleasant in horses. Do any of our readers know a remedy?

JEFFERSON-COUNTY DAIRY FARMING.

It would greatly surprise some of the western and southern stock farmers, who boast of their favored climate and rich pastures, to visit this rock-bound county upon the shores of Ontario and the St. Lawrence, to see how much more money is made by the produce of cows in a climate of six or seven winter months, than in regions where it is very mild or frost quite unknown.

In my late flying trip to Watertown, N. Y., I had the pleasure of a visit to the farm of Mr. Moses Eames, about seven miles from the village, 600 feet elevation above it, and 1,200 feet above tide water, and north of latitude 44°. The surface is quite hilly and stony, with underlying rocks, and would be thought by strangers cold and unproductive. Now, August 21st, is the season of harvest of wheat, oats, barley, and grass. Mr. E. keeps forty-three cows, and makes a cheese every day that will weigh, when ready for market, 90 lbs., worth six cents a pound at home, or \$5.40, besides a liberal supply of milk and butter for a large family. And better butter and cheese, I never tasted; nor did I ever sit at a better table than in this farmhouse—this American farmer's home—Ah, "Home, sweet home," indeed.

Milking the Cows.—These are driven from the pasture long enough before night to enable the laborers to finish by daylight, without haste. From the lower yard, about half are driven into a commodious stable, and fastened in a long line by "stanchions," composed of two upright pieces of wood about five feet long, one of which is fast in a sill, and in a girder at the top, and the other moveable so the top falls back to give the cow convenience of putting her head and horns between, and is then closed with a catch, almost as fast as a man can walk along. Cows soon learn to take their places without any confusion. As soon as all are fast, the milkers commence, each being seated upon a stool, or chair, with a sort of back attached for the convenience of handling, and a great convenience it is. The milking is done with both hands, as rapidly as possible, as the owner has found that a dribbling milker will deteriorate the best cow in a very short time. As soon as all are done, the first section of the herd are turned out at another door, which opens into the upper yard, and then the second section is brought in, and when all are done, they are driven again to pasture. In the morning, the same course is repeated.

The Advantages of Stabling to Milk, are, that all the cows are sure to be milked—all stand quiet while milking, and there is no hooking and running one after another, and upsetting milk and milkmaid. If it is rainy and muddy, all are sheltered and upon a clean floor, and men and beast are better tempered, and give and get more milk, and save a deal of scolding, much time, and more money; insomuch that a herd of forty cows will pay for a shelter in one season. Putting in one half at a time, is an advantage; for twenty are easier managed, with less huddling in the stable than forty, and

are only confined half as long, make less droppings, and only require half as much stable room, and each section has an opportunity to drink in the yard while the other is in the stable.

Disposal of the Milk.—The milk pails are carried as fast as filled to the milkhouse, and emptied into a vat of suitable size, say 7 by 4 feet, and 2 feet deep, made of wood, lined with tin, having a space between, into which cold spring water is drawn at night to cool the milk and promote the raising of the cream. This vat is elevated upon legs for greater convenience, so that the top is some 3½ feet high. When the morning milk is added, the water is drawn off and a conducting pipe from a small boiler fills the space with steam to scald the curd, which is made in the same vat. The steam is then turned into a barrel of water and heats that ready for cleansing utensils without the least trouble.

Taking off the Whey.—Another vat of a smaller size, with rollers in the legs, is placed along the side, and surface whey dipped off, and then it is rolled to a spot where a conductor, opening through the floor, receives the contents and carries it down to the pig pen. The curd is next dipped into a strainer in the small vat and the whey drained off, and then it is rolled along side of the press, and put into the hoop upon a sliding board, so the whole is done without any hard lifting. The press is one of Mr. Eames' own make, and with a small weight, will give seven tons' pressure. In turning the cheese in press, a small wheel table is rolled along side, upon which it is done with ease. Upon the same, it is conveyed into the cheese room, where the cheese are kept upon long tables, and turned by rolling upon edge and over, which is generally done by Mr. E. himself, but without great exertion of strength.

The next process after placing upon the table, is, to bandage with thin muslin, made on purpose and costing only three cents a yard. The strips are cut two or three inches wider than the cheese is thick, and the edges turned over the corners and sewed, so that it is impossible for a cheese to spread or flatten down as they formerly did before bandaging came in fashion.

The Temperature of the Cheese Room is kept cool and dry by using a stove to drive off dampness, and then it can be frequently washed with cold water.

The Average Product of Dairy Cows, in this county, is from \$25 to \$35 each, per annum, and the average value per head from \$20 to \$28.

Wintering Cows.—Two tons of good hay is the amount estimated for each cow, besides straw and other coarse feed. If giving milk, grain or roots are added, as everything extra fed is paid for in extra milk. The cows are generally of the common breed, but look remarkably fine, not only upon this well-conducted farm, but upon hundreds of others of the same sort in this rich farming county.

Buying Curd.—I was told of one man, in this county, who buys the curd of five hundred

cows, every day, and makes it into cheese. I understand that he pays five cents a pound, and takes it fresh as soon as well drained. Mr. E. says he can afford to pay that price. Cheese and butter are the staple exports of this county, and no grain-growing region, within my knowledge, can show so large a proportion of wealthy farmers, good farmhouses, good-looking and well-improved farms, and such a number of well-to-do-in-the-world people as Jefferson county. The women and children here take more interest in agricultural improvement and know more about it, than a majority of the men in some places. When you know the farmers' wives there, you will not be surprised to find such pretty girls and noble boys. Would you know the reason? They read. Yes sir, they read, and read agricultural papers, too. One handsome, intelligent boy, about fourteen years of age, came up to me just as I was leaving, and said, "Mr. Robinson, I should like to have you send me the *Agriculturist* for a year. Here is the money." That boy will make an intelligent, good man. The same boy had the sole management of a large family garden, the past summer. I need not tell you it was a good one.

Jefferson-County Agricultural Society.—I will tell you what fosters and keeps alive this spirit of improvement in this county. They have one of the oldest and one of the most active and efficient agricultural societies in the state, and the society have a hall, or place of meeting, upwards of 200 feet long and 50 feet wide, capable of accommodating three thousand people. It was built by the funds of the society, and is emphatically "the people's meeting house;" for there, all large public meetings are held, besides the agricultural annual fairs. What other county will look to this one of the north for an example, and go and do likewise?

In addition to the improved progress of agriculture, manufacturing of cotton, wool, paper, flour, axes, and many other things flourish here in an equal degree.

Plank Roads.—There are six of these valuable improvements leading out of Watertown, which is rising from the ashes of the great fire, like a phoenix in revived plumage.

Thin Soil.—Much land in this county lies upon a flat surface of rock, so near, that the plow sometimes runs quite down to it. When this is lime rock, the land is very productive and does not suffer so much as I should expect by drouth. It produces sweet grass and is more valuable for dairy purposes than any other. A railroad, now building through this county, will soon open its hidden treasures to the view of the world. Indeed, I intend to see more of it myself.

Creating a Spring.—When fitting up his dairy, Mr. Eames was much at a loss about a supply of water, having no spring that would give him a constant running stream. But he got one, and the way he did it is worthy of notice and imitation. He examined the sidehill, about one hundred rods above the house, and selected a favorable spot, where the land had a "spouty"

appearance, and dug a reservoir and wing ditches to form underdrains into it, and soon had the satisfaction to find the plan succeed which gave him a living fountain that runs summer and winter in the cowyard without fail from the drouth or frost. This is only one of the fruits of an intelligent mind devoted to agricultural improvement, and possessed by a self-made man. But he is a reading man as well as a working one. SOLON ROBINSON.

REMARKS ON BREEDING.

As an illustration of the effects of *in-and-in* breeding, the following instance is related to us as having occurred in a particular neighborhood in this county. A farmer of a sour, unsocial disposition, who as much as possible avoided all intercourse with the rest of the world, and shunned asking the slightest favor of a neighbor, lest he might at some time be desired to reciprocate the kindness shown him, for a long series of years, bred his cattle entirely from his own stock. In consequence of this course, such a herd of mis-shapen, ungainly, big-headed quadrupeds were produced that they could scarcely be recognised as belonging to the cattle kind; and "—s wolverines" were for a long time the butt of ridicule in the whole vicinity.

The careful breeder, upon either system, will avoid using, even for a single season, any animal possessing obvious defects; for such defects, once introduced in but the slightest degree, are liable to be transmitted and reappear even after several generations have passed. To the many curious and valuable facts already on record relating to this subject, the following may be added:—A portion of the fowls possessed by Constant Clapp, Esq., were formerly of the "downy" breed. But this variety, so strongly marked, had run out and entirely disappeared from his premises for eight years, when three of these downy individuals, perfect in every particular, reappeared among his flock—showing that the blood, though apparently obliterated, had yet been lurking there, generation after generation. [This is what is technically called in breeding, "crying back." —Ers.]

It was a favorite theory with the late distinguished General Schuyler, a man of extensive observation, of deep penetration, and sound judgment, that the true character, either of a man or beast, could be ascertained by looking at the parentage from which he had descended; and as an illustration of this, he used humorously to relate the incident, that in the early years of the Dutch trade with the East Indies, one of his ancestors, being a sea captain, had gone thither, and returned with a wife—a Mongolian lady, whom he had married in his absence. And the blood of that cross continued still to cling to the descendants two centuries afterwards, despite of all their efforts to eradicate it—so that down to the present day, in one branch and another of the family, one of these confounded East Indians would occasionally be making his appearance!—*Trans. N. Y. Ag. Soc.*

FARM OF MR. BUCKALEW.

In the month of June last, we had the gratification of visiting Mr. James Buckalew. His residence is at Jamestown, N. J., about 16 miles west of South Amboy. Few men have done more for the improvement of the agriculture of his country than Mr. Buckalew, and all this has been accomplished by his own genius, coupled with an enlightened enterprise and untiring industry. Mr. B. commenced the world with nothing, as many of the successful men in America do, and now he has about 3,000 acres of land, 1,500 to 1,800 of which is under excellent cultivation. He cuts from 300 to 400 acres of grass, averaging $1\frac{1}{2}$ tons per acre; plants 200 acres in corn, averaging from 35 to 40 bushels per acre; oats about 70 acres, with the same average; wheat 80 acres, averaging 20 bushels; besides these, he cultivates rye, buckwheat, turnips, and potatoes, all yielding much more than the general average produced on New-Jersey farms. In addition to these crops, he has peach orchards of his own, containing upwards of 30,000 trees, and others equally as extensive, which he owns in company with the Messrs. Stevens and Cook, all yielding a good income.

We can fancy many of our readers rubbing their eyes with astonishment at the mention of such large crops, taken from the poor sandy soil of New Jersey, and they are ready to ask, is the writer dreaming, or is he stating facts; if so, how has this success been achieved? Wait a while and you shall see; but first we must begin at the beginning.

We have said that the soil of this region is a light shifting sand, with scarcely any vegetable matter in it. The forest growth on this land is generally stunted pine, which the inhabitants of the country have been in the habit of cutting off about every twenty years, and then leave it to grow up again with wood. So poor was the land, that few thought it would pay for cultivation, and the result is, that the greater portion of it still remains in forest, worth only \$3 to \$5 per acre.

After clearing the land of the wood and burning the brush, Mr. Buckalew does not add the extra expense of grubbing it, but takes a strong lock-coulter plow, which will easily cut through any root two inches in diameter, and with this implement, he can turn up the soil nearly as well as if it were destitute of stumps and roots. The first crop is rye without manure, which yields well. Now he plows again, and spreads 40 bushels of lime to the acre, harrows that in, and then applies 50 to 100 bushels of Squankum marl (green sand improperly called marl). Thus prepared, he sows wheat, followed by grass. The lime helps to bind and give consistency to the loose soil, and the marl supplies it with potash; the result is, the large crops spoken of in the commencement of this article. Such a dressing will last ten to twelve years. Thus our readers will see that this dressing is the great renovator with Mr. Buckalew. Still, he does not neglect other fertilisers. He now and then plows in a green crop of clover, buckwheat, &c., in order to furnish vegetable matter to the

soil; he has, also, plenty of muck or peat in his meadows, which he mixes with barnyard manure and applies to the land, more particularly when planted with corn. The result of all this, is, that the crops pay a profit as they go along, and in a few years, the land which cost originally \$5 per acre, becomes worth, and will readily sell for \$20 to \$30, excluding the buildings.

The marl should be well dried before spreading, and the lime applied hot from the kiln. Mr. B. prefers sowing grass seed in the fall with the grain. The yield of grain he says is not so good under this system, but the grass is enough better to pay for it. He puts on plenty of grass seed, probably two or three times as much as farmers generally do; the result is, he gets a good crop of grass the first year.

The hay is unloaded in the barn with a tackle and fall, by hooking on to the four corners of the frame containing the load, and raising it from the cart. It is then swung round over the mow, and turned topsy-turvy. A ton can thus be unloaded in five minutes.

Mr. Buckalew is very enterprising in adopting all new and well-approved agricultural implements. He has horse power as well as water power, grain mills for his own grinding, threshers, fanning mills, raking and mowing machines, hay presses, &c. Water rams are placed on every little stream, to convey water to the top of his house and into every barnyard. It is his intention to carry it hereafter to the rising grounds on his farm, and thence irrigate the surrounding fields whenever required. This is a capital plan, and we hope he may be successful in carrying it out. It is surprising that so useful a thing as a water ram is not adopted wherever it can be applied. Though they are now well known and their value is indisputable, not one farmer in ten thousand has them in use, nor can they be persuaded to adopt them.

Having a contract for towing the boats on the Delaware and Raritan Canal, Mr. B. keeps about 300 mules, as he finds them much better for his purpose than horses. He has several reasons for this preference. 1st, their first cost is not so much; 2d, they begin to work a year sooner than horses; 3d, they last twice as long; 4th, they are harder and not so liable to disease; 5th, it costs less to keep them. The best feed he finds for them is as much good hay as they will eat, and a mixture of half oats and half corn, ground fine, and the meal fed dry. During the working season, he keeps their collars on when at rest in their stables at night, as well as when at work by day. This so toughens the skin on their shoulders that it rarely becomes sore or rubs off.

Mr. Buckalew saves the expense of much fencing, by having his farms divided into large fields. Some of these, which, when he purchased, had fences running in every direction, dividing them into small inconvenient sections, he has thrown into large fields of 40 to 100 acres. He thus saves a large annual outlay for fences and repairs; makes it much more convenient to cultivate the land, and gives the estate an incomparably fine appearance.

We noted several other things at Mr. Buckalew's, which we intended to speak of at this time, but our article is already so long we must forbear for the present. We shall, however, again recur to them. In the meanwhile, if any one wants to make the acquaintance of an intelligent, energetic man, and see good cultivation, such as any farmer can practise, if he pleases, however limited his means, let him make a visit to Mr. James Buckalew, of New Jersey.

AGRICULTURAL GEOLOGY.—No. 5.

THE soils which overlie clay-slate rocks vary much in composition. In many instances, they are drift soils; that is, they have been transported from a distance and deposited upon a clean surface of rock. Thus, in the middle western counties of this state, gravelly and gypseous clays lie upon the slate rock, which latter influences very slightly the character of the imposed soil. If these rocks, which may be looked upon in the mass, as a sort of salt-water-mud rock, vary much in their own chemical composition; any soil formed of them must also vary in composition. For instance, between beds of shale, a bed of good limestone is occasionally met with; in other localities, the new bed is a flag or sandstone, both of which alter the composition of the soil, the former enriching, the latter impoverishing it. Where trap rock or greenstone is pushed up through slate, the soil is much benefited by the increase of lime and alkali, which it thus receives. Such is the condition of much of the soil of Canada, bordering Lake Superior. The palisades, along the Hudson River, are trap rocks, but have not the same influence on the subjacent soil as in many other places.

The soil which is formed by the decomposition of a slate rock is a stiff clay; and all clays which are not of drift origin are derived from the wearing away of slate. We have already asserted clay slate to be a marine mud, derived from the decomposition of a previously existing rock. This previous rock contained the mineral felspar, the decomposition of which produces stiff clay. The mineral chlorite, also, produces tenacious clays by decomposition, and both felspar and chlorite, existing in most true slates, form the grand basis for a clay soil. Felspar contains in 100 parts, 65 of silica, 18 of alumina, and 17 of potash, and these are united together as a silicate of alumina and a silicate of potash. The mineral chlorite, that which tinges slates of a green color, is not so prevalent a constituent of slate as felspar, and contains in 100 parts, 26 of silica, 21 of alumina, 26 of magnesia and 14 of oxide of iron. The agreement of these two minerals is in the possession of silica and alumina, and any soil formed from them must contain these two substances in excess.

The felspar being worn to a fine powder and deposited in water, has had its potash almost all washed out, and much of the magnesia of the chlorite has been removed by a similar process.

But a slate rock is not wholly made up of the

debris of these minerals; deposited in sea water, where weeds and wreck grow, it contains imbedded in its layers an amount of marine *fuci*, and terrestrial flowerless plants, sufficient to give the rock a dark tint, and in a few cases to render it so bituminous as to burn continuously when once inflamed. Such is the condition of the Genesee black slate, and the fossiliferous shales of the central and western counties of this state (Ontario, Seneca, Tompkins, Steuben, Cayuga, &c.) Such rocks also contain the saline matter of the ocean of that period, in the form of common salt, gypsum, and chloride of magnesia, in minute proportions. A few of the beds of shale in the great wheat district of New York contain as much as 6 per cent. of this saline matter, a proportion nearly equal to 20 tons per acre. An ordinary shaly-slate rock is capable of yielding an average, in 100 parts, of

Silicates of alumina, iron, and magnesia,	92.97
Soluble saline matter,	6.00
Vegetable matter,	1.03
	100.00

Very many of the shales contain as much as 4 per cent. of lime in the state of carbonate (mild lime). The soil would be rich, indeed, which would be found to contain as much soluble matters as exist in the foregoing shale; such never occurs. In the weathering of the rock, the rains and stream water wash out the greater portion, but never leave so much as 2 per cent. behind.

The greater portion of Dutchess, Ulster and Putnam counties have a stiff clayey soil, arising from the decomposition of slate rocks. The following are the compositions of two soils in Ulster county:—

	1.	2.
Water of absorption,	1.00	2.56
Vegetable matter,	3.04	5.53
Silica and silicate of alumina,	88.08	88.36
Alumina and oxide of iron,	4.04	1.61
Lime,	0.03	0.78
Magnesia,	0.02	0.14
Soluble salts, as common salt, plaster and potash, and phosphoric acid,	2.02	1.02
	100.00	100.00

No. 3 is a stiff clay from Westchester, and No. 4 is a clay from Seneca county, the composition of which is as follows:—

	3.	4.
Water of absorption,	4.00	4.00
Vegetable matter,	4.06	4.23
Silicate of alumina,	85.08	87.00
Alumina and peroxide of iron,	4.08	4.40
Lime,	0.05	0.01
Magnesia,	1.04	0.01
Soluble salts of potash, with common salt, plaster, and phosphoric acid,	1.08	1.01
	102.00	101.00

These analyses shew the general characters of clayey soils. Leaving out of view these substances which are in some degree the result of

cultivation, as the moisture and vegetable matter, the great mass is a silicate of alumina and alumina with iron. The earths, lime and magnesia, are never present in any large amount, and the saline matters are the residual salts of the rock not wholly washed out. The predominant ingredient is alumina, and as the characteristics of alumina are those of clay, they require some consideration.

Alumina attracts moisture; when very pure, it is kept dry with difficulty; when mixed with silica, forming porcelain and pottery clays, it is very retentive of water; such clays are made up of 40 of alumina and 46 of silica in 100 parts, and from their large amount of alumina they are totally unfit for any agricultural purpose. The stiffest farming clay does not contain more than 25 per cent. of alumina, and is even then very difficult to work, owing to its affinity for water. In manufacturing pottery, it is difficult to get rid of this moisture, and the highest heat of a furnace is required to bake the clay; that is, free it completely from water. All soils containing clay exhibit the same property, so that a clayey soil means generally a soil imbued with moisture, stiff, cold, and heavy in its textural quality. This last sentence conveys the whole of its injurious effects, notwithstanding which, it has so many advantages that clay soil is universally preferred to any other.

Alumina of itself is no nutriment to plants. It rarely, if ever, enters into the composition of a vegetable and appears rather to have been introduced accidentally than to be a necessary constituent of any vegetable growth. But it always supplies moisture to the plant, keeping the roots in a condition ever ready to absorb food, and constantly throwing out the spongioles; furthermore, this water so supplied always contains saline matter, so that both moisture and salts are constantly supplied by a clayey soil.

Alumina is the densest of the earths, and a clay is the heaviest of soils; if a cubic foot of loose earth weigh 95 lbs., a similar brick of clay will weigh 135 lbs.; there is more matter in a given space, and therefore more nourishment for plants in a given average of clay soils than in any other.

Alumina has a great affinity for potash. It is almost impossible to wash it free from it, and clays have a similar property in retaining any potash salts in the ground. Perhaps this is the most valuable property of alumina. It may be said, with truth, that there is no stiff clay destitute of potash; and as this is the most important mineral ingredient in cultivated plants, we see one reason why clay soils are better adapted for husbandry than any other lands.

SET OUT FRUIT TREES.—As you value health, long life, and smiling friends, do not let the winter set in till this is done. If you cannot set them out, get them home from the nursery, and bury the roots in garden mold and keep them till spring. Do not say you “don’t know where to get them.” Send your orders to us, if you cannot do better, and we will see that you are supplied by an honest nurseryman.

ECONOMY AND PRESERVATION OF FARMYARD MANURE.

At a late meeting of the Highland and Agricultural Society of Scotland, Dr. Anderson delivered an important lecture on the “Economy of Manures,” from which we make the following extract:—

I beg it to be understood as my decided opinion, that farmyard manure must always be the farmer’s main stay. Good farmyard manure will contain more or less of all the constituents of our crops, but, in estimating its value, we must be contented to take into consideration only its more important constituents, and, in this way, I conceive we may obtain a sufficiently near estimate, by knowing the amount of nitrogen and phosphoric acid which it contains.

In the management of farmyard manure, two different questions require to be considered. First, the production of a manure containing the greatest possible amount of nitrogen; and, secondly, the successful conversion of that nitrogen into ammonia. It is not unimportant, of course, that the other constituents of the manure should be present in abundance, but it may be assumed, as generally true, that the treatment likely to produce the greatest amount of nitrogen, will be that which produces the most valuable manure in other respects. In regard to the first of these questions, there is a want of definite information. It is a common statement, however, that the value of the manure is dependent upon the nature of food with which the cattle that produce it are supplied. That, for instance, cattle fed upon oilcake produce superior manure to those fed on turnips. I am aware that this opinion is not universal, as I have heard it disputed by farmers of skill and experience. I am inclined, however, to believe that it is to a certain extent correct. Supposing, then, that two samples of such manure differ, it must be obvious that it is the dung and urine of cattle which differ; the *litter* mixed with such dung will be the same in both cases.

As regards the general question of the preservation of manure, I apprehend that the most important matter is its protection from air and moisture. In the way a common dung heap is made, we have, in fact, exactly the conditions to occasion loss of its valuable constituents. It is exposed to a more or less free current of air, which facilitates the volatilisation of the ammonia as it is formed; and it is exposed to the falling rain, which washes out the soluble salts, and what ammonia the winds have spared, into the subjacent soil. It is true that the former of these sources of loss can be got the better of by the use of acids or of gypsum, and mixing with dry earth; but when the ammonia is thus fixed, as it is said, it is fixed only as regards *volatility*, for it is still *soluble*, and liable to be washed away by rain.

In order to have farmyard dung in the best state, it must be preserved under cover; and, my impression is, that the introduction of covered dung pits is likely to prove of great importance. We have another matter to attend to,

also, in the management of farmyard manure—its fermentation, namely, by which is meant the production of such a decomposition as converts the nitrogen present into ammonia. The importance of this decomposition depends upon the fact, that, by this means, we obtain a manure which acts with greater rapidity than one in which this decomposition has not been effected. The fact is, that the formation of ammonia, takes place much more slowly, when it has been incorporated with the soil, than when it is heaped up in the dung heap; and as the nitrogen must pass into the state of ammonia before it is absorbed by the plant, we require to effect as much of that change as possible, if we are to have a manure of rapid action.

A NEW WHEAT FOR THE SOUTH.

INCLOSED, I send you a small sample of wheat of the present year's crop. It resembles the white-flint, but is not so called in this neighborhood. The heads are rather short, but well filled, containing from thirty to forty or more grains. The awns, or beards, are from half an inch to an inch in length, very stiff.

The crop, of which this is a sample, weighed 63 pounds to the bushel. The flour is equal to any of the Genesee brands we get in this country. This wheat, in this latitude, ($33^{\circ} 40'$), if sown the last week in November, or first in December, will mature by the last week in May. My last crop, I commenced sowing on the 27th of November, but on account of wet weather, I did not finish until the 7th of December. I sowed $8\frac{1}{2}$ bushels, but did not measure the land, as I intended to sow one bushel to the acre. The land was in corn and peas. I gathered the corn, cut down the stalks, and chopped them up with hoes; then sowed the wheat and turned all in together, having gathered the thickest of the peas, but let no stock on to eat the vines, as is usual in this section of the country. The wheat was sown in a very slovenly manner, by which I lost much, and was badly threshed for want of a proper machine; but I finally measured 85 bushels, weighing as before stated, 68 pounds per bushel.

The land upon which the wheat grew was what is called "mulatto land," being of a redish-brown color, with a red clayey subsoil, and had been planted with corn and cotton some twelve years, without any manure, except a handful of cotton seed to the hill, which I put on the corn last year, on a small part of the poorest of the field. The wheat was harvested on the 28th of May, but was not "dead" ripe. I am satisfied that I lost 15 bushels in the harvesting and threshing.

I think this the best wheat for this latitude; for it may be sown so late as to escape the fly, and still ripens early enough to be free from rust. It has a thin-skinned grain, and is quite liable to the ravages of the weevil after it is cleaned.

The universal opinion in this part of the country, founded on experience, is in favor of thin sowing of wheat, one bushel to the acre being the usual quantity. As it grows all win-

ter, it is perhaps more disposed to tiller than at the north; or perhaps, there is some deficiency in our soil; for, when it grows thick, if the soil has sufficient strength to make good heads, the straw fails to hold them up and the wheat falls to the ground.

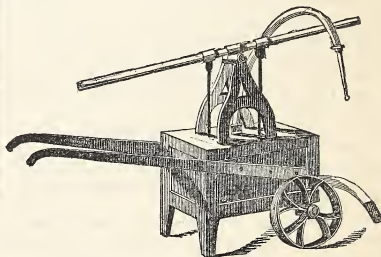
P. DAVIDSON.

Raytown Oak Knoll, Ga., Sept. 14th, 1850.

WITH the foregoing, we received a sample of a medium-sized but exceedingly plump, white wheat. Surely, if our Georgia friends can raise such wheat as this, there is no need for them to send to the north for flour. We think an application of ashes or potash, in some form, to dissolve the silica in the soil, and thus yield silicate of potash, would supply the requisite strength to the stem to enable it to support itself with a full head.

GARDEN AND FIRE ENGINES.

THESE are made of two kinds, the *single* or *forcing*, and the *double* or *suction* and *force*. The first requires to have the water delivered in the box, and the other will draw water from any depth not exceeding 30 feet, and force it equally as well as the first. They are easily worked by two persons, and will throw the water some 60 feet in height. Being placed on wheels, they can be moved wherever desired. Engines somewhat resembling that denoted by fig. 81, have been in use for some years, but the present ones combine some advantages and improvements over any heretofore in use.



GARDEN AND FIRE ENGINE.—FIG. 81.

ERRORS IN COMPOSTING FARM MANURES.

THE farmer's manure heap is usually the receptacle for every substance that has served its original purpose; but it is a mistaken idea that everything thrown in there will serve a useful purpose. We may, however, just say here, that this error has considerably influenced farm practice. Belief in the alchymy, rather than the chemistry of the farmyard, has led some persons to cart soil into the manure yard, and to carry it back again with the dung to the very field from which it was taken; adding materially to the bulk and expense of the manuring. They presumed that they added to its value but the effect of the earth upon the farmyard manure would be merely to retard decomposition, and thus might be a loss or a gain, according to the circumstances of the soil and the crop.

Animal substances, offal, and fish of every description are also very unprofitably applied to farmyard manure. The natural tendency of animal substances to enter into putrefactive fermentation is well known to be greater than that of vegetable substances. By placing them in the manure heap, we, in a further degree, facilitate the quality in which they naturally excel, and the tendency of which is to rob them of their most valuable element, nitrogen. Judicious practice should avoid this error, by adopting, if possible, a system having an opposite effect.

Lime is one of the substances which it is also an error to use with composts in which we have farmyard manure. It is equally an error to mix lime with any compound rich in ammonia. The tendency of lime, in all composts, is to promote decomposition and to waste nitrogen, which escapes, by union with hydrogen, under the form of ammonia, which is the very treasure of the dung heap, and of most other manuring substances.—*Morton's Practical Agriculture.*

AGRICULTURE IN NEW HAMPSHIRE.—No. 2.

As my remarks on the above subject in the June number of the *Agriculturist* were favorably noticed by "Reviewer," with a request that something further might be heard from this quarter, I am emboldened to transmit a few more thoughts, which are at your disposal.

New Hampshire is one of the smaller states of the Union, being about one fifth the size of New York or Pennsylvania, and one seventh the size of Virginia. It has been aptly styled the "Switzerland of America," being in many parts rugged, wild, and romantic. It is, indeed, a "hard state," requiring a great deal of bone, nerve, and sinew to subdue its rugged features in order to render it the pleasant abode of man. Nothing but perseverance and unconquerable determination can produce those results which it is our pleasure to witness, and which begin to excite the admiration of travellers. We have much to contend against. Our climate is cold, and the frosts of spring and autumn are sometimes injurious to our crops; still, by prudent calculation, we can produce a competence.

To begin with, we generally have health and elasticity, without that lassitude which prevails at the south and west, where, I am informed, they are obliged on waking to enter into a sober calculation to see if they have strength sufficient to rise. If we had to yawn half the day before we could take up our implements, we might well despair of obtaining a livelihood. We should have to sigh in autumn that the season had passed away, and no adequate provision made for the approach of the stern winter king.

"Reviewer" desires that some of your southern and western farmers, who find it hard to live on farms of a thousand acres, might be informed how many could be supported on a farm one tenth that size, and that half rocks.

I know not now many *could* be supported on such a farm, but I well know that multitudes

of very large families *are* well supported on farms of that size and description, and even smaller ones. Let us take one of these hundred-acre farms, half rocks, and in other respects formidable and forbidding, and notice the *modus operandi* of getting a living from it. We must first suppose, that, by dint of many and many hard days' labor of man and beast, in digging, filling, levelling, scrubbing, drawing stone, and building huge walls, a suitable proportion of the farm is rendered tolerable for plowing; and, when such work is once done, and well done, it is always done. Now for the product. On one of these well-managed farms are produced one hundred and fifty bushels of corn, fifty or more bushels of wheat, or their value in some other small grain, from three hundred to seven hundred bushels of potatoes, thirty tons of hay, sixteen hundred pounds of pork, seven hundred pounds of butter and cheese, besides wool, fruit, peas, beans, garden vegetables, perhaps fat cattle, &c. These support the family, pay the taxes, wages of "help," and other expenses, and often leave an income over and above all.

The modes of cultivation are similar to those of other places. Around almost every country dwelling you may see broods of chickens and other fowls, under the management of a prudent housewife or her daughters. It would do you good, (doubtless it has done,) to witness the air of honest pride and satisfaction exhibited by many a country dame in rearing her fine flock of goslings or turkeys—the hope of many a future comfort and luxury. Long before they are fit for the market, she, with her children, begin to rejoice in the "nice things" which they will purchase.

Many of our pastures may be traversed in any direction, by leaping from rock to rock, with scarcely touching the ground; yet, for sweet and tender herbage, they are not surpassed. Young cattle, which are turned into them in ordinary flesh, are, by the autumnal equinox, brought out round, fat, and sleek, such as the most dainty epicure might fancy.

Our marketing has been mostly done in the large towns of Massachusetts, but the manufacturing towns, that are springing up in our midst, afford good markets for adjacent towns. Such are a few features of New-Hampshire farming. Have we not the comforts of life though we may have to labor hard to obtain them? I believe that agriculture is steadily on the advance, though we may never cut so great a figure as some other states. When we get on the right track, we shall surprise many a traveller. Our lands will grow better instead of worse. The "*inexhaustible*" fertility of western land begins to show the bad effects of cropping without manure. A writer in *Western Reserve*, Ohio, says: "I think they, (the farmers of Ohio,) might use to advantage much *more*, (manure,) than they do, as their soil *grows old* and has been pretty well used up." They will ere long have to.

By industry and economy, a people may thrive almost anywhere. Where dissipation,

indolence or loose management prevail, there will be much complaining, however boundless the fertility of the soil. P.

Milford, N. H., Sept. 20th, 1850.

THE CUT WORM.

I HAVE learned through the press and other sources that the "cut worm" has done irreparable injury to the cotton plant this spring, and is still at work on some plantations in the parish. Until this season, I have uniformly been an extreme sufferer whenever they appeared in the country—never escaped before—but fortunately for me, they have been "few and far between"—so far, doing my plants no harm. I think the cotton is now too large for them. It has been my study for some years to destroy or escape these worms—finally, for the first time, last year, I adopted the plan of burning off cotton and cornstalks, grass, and in fact everything combustible upon the field, in order to furnish as much ashes as possible to the land, generally knowing they are not fond of ashes nor of lime. This may have been some benefit, but I rely mostly upon late plowing—leaving the cotton land for the last, and breaking it up deep with two horses, just upon planting, say the 1st of April, thereby destroying millions of these worms, while they are generating. By more early breaking up, they can remain under the cotton ridge and have sufficient time to breed an army before the young plant can possibly grow out of their reach.

As a proof of this position, the few discovered in my field were of very small size. My cotton crop was planted between the 5th and 15th of April, considerably later than I usually plant. I do not, presume, however, that the late planting could have had much to do with it, because the cut worm is said to be worse upon the replant of May than the older stalks. I leave practical men to draw their own conclusions, still I must cling to mine, that it was the late ridging up of the land which saved me from the cut worm this year.

If the publication of these hints, hastily thrown together, will have a tendency to relieve the cotton planter, in 1851, from the ravages of this vile enemy of our great staple, I shall be gratified. D. J. FLUKER.

East Feliciana, 3d July, 1850.

PROTECTION OF OYSTER BEDS.—It is quite time the legislators of our Atlantic states extend their cares over our oyster beds. Some general and politic regulations should be adopted, that shall secure to the rightful owner, whoever may be so designated by the law, a claim to his oyster beds as unquestionable, as is now extended to herds and flocks. There is a lawlessness, a prodigality, a recklessness in the management of this species of property, that leads to an infinity of waste. The adoption of an intelligent, judicious law, regulating this kind of property beyond any equivocation or mistake, would multiply this delicious viand immeasurably, and spread it in profusion on every man's board, while it added millions to our products annually.

WATER OXEN.

WE notice the arrival from Constantinople, per bark New World, via Liverpool, of two pair of Asiatic buffalo calves, or as they are generally called in the books, "water oxen."

These animals have been imported by Dr. Davis, for Mr. Williams Middleton, whom we understand, some time since adapted, (by wire fencing,) a large extent of land for the rearing of cattle, and in which he has about one thousand head, sustained entirely by the natural resources of the land, not only giving him a large revenue, but adding greatly to the supply of veal, butter and beef markets in our city.

A pair of these water oxen, brought out by Dr. Davis over a year since, are really objects of curiosity, (and of course of corresponding promise,) from their remarkable fatness, and this from feeding on the marsh grass of the Doctor's farm. Mr. Middleton has, in his inclosure, a great deal of this marsh land, now valueless, which, we believe, he is now about to turn to good account with these animals.

The water oxen disregard mud or bogs, and are hence well adapted, as working oxen, in such lands. A great part of the day, they spend in Ashley River and an artificial pond on the Doctor's farm, with only the nose out of water. They grow to an enormous size, the cows, tolerable milkers, and very fair as beef cattle.

We are thus particular in this notice, hoping that the planters on our extensive marshes and rivers, where the freshets are so destructive to cattle, will examine into the capacities of these animals, and avail themselves of this facility of importation.—*Charleston Mercury.*

STORM GLASS.

THIS instrument consists of a glass tube, sealed at one end, and furnished with a brass cap at the other end, through which the air is admitted by a very small aperture. The tube is nearly filled with the following solution, which may be obtained of any apothecary or chemist:—

Camphor, 2½ drachms; nitrate of potash, 38 grains; muriate of ammonia, 38 grains; water, 9 drachms; rectified spirit, 11 drachms. Dissolve with heat. At the ordinary temperature of the atmosphere, plumose crystals are formed.

On the approach of stormy weather, these crystals are often observed to occupy only the bottom of the tube, where they appear to be compressed into a compact mass; while, on the other hand, during the fine weather, they assume their plumose character, and extend a considerable way up the glass. These results depend upon the condition of the air, but they are not considered to afford any indication that can be relied upon of the approaching state of the weather. When exposed to a very low temperature, the compound camphor-liniment bottle affords the same appearance and indication as these storm glasses.—*Pharmaceutical Journal.*

FALL PLOWING.—If you have leisure before the ground freezes, do not forget that one day of plowing stiff lands is worth two next spring—breaking prairie land always excepted.†

SUNDRY QUERIES.

OBSERVING your invitation to subscribers to send you questions of general interest as connected with agriculture, I have taken the liberty to propose the following for your consideration, and if worthy of a place in your journal, it is hoped that you, or some one else, will favor us with appropriate answers.—

1. Will plaster of Paris, (sulphate of lime,) be active, as a fertiliser, in cases where carbonate of ammonia is not present in sufficient quantity in the manure to decompose the whole of it? (a)

2. Will the carbonate of ammonia, resulting from the above, and the residue of the plaster, (carbonate of lime,) remain neutral to the other ingredients in farmyard manure? (b)

3. Will sulphuric acid have any influence in the formation of nitrates in a compost heap, or in the fermentation of manure? (c)

4. In localities, where night soil, urine, soap-suds, soot, ashes, swamp muck, hen manure, pig dung, &c., exist in considerable quantities, can salt at 25 cents, and lime at 31 cents per bushel, be economically applied in composts or other manures on a farm? (d)

5. Can the barometer be relied upon as a means of foretelling the state or changes of the weather, and if so, what are the principal rules for ascertaining such changes? (e)

6. Has any one turned his attention to the construction of a cheap barometer afforded at such a price as will come within the means of the common farmer? (f)

7. Are there any offices or societies in your city for assisting persons in finding employment in farming and gardening, with a scale of prices, capabilities, &c., by which a farmer may know on what terms he can hire? (g)

A YOUNG FARMER.

Greenfield Hill, Ct., Sept., 1850.

(a) Yes. Plaster will always act as a nutriment for clover and broad-leaved plants, whether ammonia be present or not.

(b) Certainly. They have no power of decomposing farmyard manure.

(c) Sulphuric acid, in any quantity, will check fermentation. It never aids it; and a compost heap never lies long enough to form nitrates. The formation of these is a slow process, and they are more perfectly carried out by the use of alkalies, as potash, than by any acid.

(d) Scarcely economical, at these prices. Lime should never be mixed, in a caustic state, with any compost containing urine nor with the droppings from any animal.

(e) The practical rules for ascertaining the changes of the weather by means of a barometer, as laid down by philosophers, are as follows:—

1. The rising of the mercury presages, in general, fair weather; and its falling, foul weather, as rain, snow, high winds, and storms.

2. In very hot weather, especially if the wind is south, the sudden falling of the mercury foretells thunder.

3. In winter, the rising indicates frost; and

in frosty weather, if the mercury falls three or four divisions, there will follow a thaw; but if it rises in a continued frost, snow may be expected.

4. When foul weather happens soon after the falling of the mercury, it will not be of long duration; nor are we to expect a continuance of fair weather, when it soon succeeds the rising of the quicksilver.

5. If, in foul weather, the mercury rises considerably, and continues rising for two or three days before the foul weather is over, a continuance of fair weather may be expected to follow.

6. In fair weather, when the mercury falls much and low, and continues falling for two or three days before rain comes, much wet must be expected, and probably high winds.

7. The unsettled motion of the mercury indicates changeable weather.

8. Respecting the words *Rain, Fair, &c.*, engraved on the register plate of the barometer, it may be observed, that they cannot be strictly relied upon to correspond exactly with the state of the weather, though it will, in general, agree with them as to the mercury rising and falling.

(f) Barometers can be purchased at the mathematical and philosophical instrument stores, for prices varying from \$10 to \$25. The storm glass, described at p. 338 of the present volume, can be furnished by any chemist or apothecary, for 50 cents or less.

(g) We know of none.

CULTURE OF GRAPES.

WHY is it that we are so backward, as a nation, in the cultivation of this wholesome and delicious fruit? In passing up the Hudson River the other day, in company with a friend just returned from a tour on the Rhine, he informed us that land there as rocky and as steep as the roughest hills of the Hudson, was worth several hundred dollars an acre for growing grapes; and it is his opinion that our soil and climate are quite equal, if not superior, to the famous banks of the Rhine. But in attempting the cultivation of the grape, we have committed a fundamental error, and that is in placing our principal dependence on foreign varieties. Had one fourth of the money been spent in the production of native seedlings, which has been in abortive efforts in cultivating foreign vines, we should doubtless, ere this, have had many first-rate sorts, producing abundantly all over the United States.

Another great mistake we have committed, is, that those who have attempted the production of native seedlings have condemned them too soon; and generally speaking, if they did not prove, on first trial, a good table grape, they would abandon them as worthless. Now it is known that several of the choicest kinds of wine grapes are worthless for the table; the taste, therefore, is no criterion of their value for this purpose; and the probability is, that many a seedling, which would have produced good wine, has been prematurely condemned, because not palatable for the table.

Still another great mistake has been made in

the cultivation of the grape, in not trying it in different kinds of soil, and in different exposures. It is well known that wine, produced from grapes grown on one side of a hill is worth five or ten times the price of that grown on the opposite side, although the grapes are of the same variety and are subject to the same cultivation. But rocky hills, such as produce the finest kinds of European wines, we pass over as too sterile entirely to grow grapes, and almost invariably plant them on our richest soils. This may be very proper for table grapes, but it is certainly the reverse of what is desirable for wine grapes.

Are there none now among the many wealthy and intelligent persons settled on the banks of the Hudson, who will undertake the cultivation of wine grapes? We know very well that it will require years of experiments, in the first place to produce the right kind of seedlings; and after that, many years more to give the wine made from their fruit an opportunity to perfect itself. But reflect for one moment upon the great benefit that we should derive, as a nation, if we succeeded in the enterprise. It is well worthy the attention of the horticultural societies, but it would be still more desirable if an association of gentlemen on the Hudson could be formed, with sufficient capital and perseverance to devote at least twenty years' effort to accomplish so valuable a purpose.

TO RENOVATE PEAR TREES.

WHERE pears are stunted in their growth, the bark thick and partially dead, I would recommend the following method:—Scrape the outer bark well; take off all the moss and dead bark into the green or living bark, and wash the trunk with potash, dissolved in water, united with soft soap in equal quantities.

Then dig the earth away from the roots, say three or four inches, and scatter around the space thus dug one or two shovelfuls of manure from the hen house, according to the size of the tree. Throw back the earth, mixing it at the same time with the manure; repeat the operation every spring, and if anything will cause them to grow, this will. I have found it far superior to any other manure that I have tried. A few barrowfuls of fresh stable manure, thrown into the hen roost, according to the quantity of fowls, will make an excellent manure, when rotted, for this or any other purpose. I.

Westbury, L. I., Sept. 1850.

CERTAIN CURE FOR FOOTAIL IN SHEEP.

The following receipt was handed to me by Mr. Thomas Wilkinson, of England. I tried it successfully myself, and feel confident in recommending it to others as an effectual cure for this troublesome disease.

Take of quicksilver, one ounce, aquafortis, (nitric acid,) two ounces, and put them together in a glass bottle; place it in the sun, or in a warm place, with the cork out, till dissolved, when it is ready for use; cut the hoof away, as far as the foot is diseased; dip a feather in the

mixture, and be careful to anoint the diseased part all over. After this, keep the sheep in a dry place for eight or ten hours. They seldom require more than one dressing, if properly done. It will be necessary, also, to wet the feet of the sheep not diseased, with turpentine, to prevent it spreading further amongst the flock.

HUGH EATON.

Union Farm, Hunterdon, Co., N. J., Sept., 1850.

VILLAGE LECTURES.—No. 1.

WE insert from the London Agricultural Gazette, the following and succeeding lectures on Scientific and Practical Agriculture, which, from the simplicity of the language in which they are expressed, and their general utility to the farmer, we trust will be acceptable to a large proportion of our readers:—

The Soil and the Air.—The soil and the air, in connexion with agriculture, have no immediate bearing upon their daily pursuits; and whether the influences which thus affect the practice of the farmers be capable of satisfactory explanation or not, the practice and profit of their own individual occupations will remain precisely as they hitherto have been—undisturbed by those particular truths which our subject includes. This subject, however, I am persuaded, is not the less appropriate on that account for general consideration. It is one of general interest, not only because the air we all breathe and the soil we all tread cannot, but in some measure, affect us all alike, but because the usefulness of knowledge of this, as on every other subject, is not measurable by the pounds-shillings-and-pence scale, which would confine it to those cases exclusively where a money result depends upon the possession of it. There is a usefulness besides that which immediate profit measures; and though the agriculturist should not, and others could not, earn the more because they know the more of the air and the soil in connection with the art of cultivation, yet such knowledge is beneficial to all as an addition to mental if not to material wealth—as food for the mind, which, like the body, can live only by appropriate nourishment—as matter for pleasureable thought, from which, as from all other topics, we may usefully draw the unfailing inference regarding the wisdom, skill and power, and goodness which creation everywhere exhibits.

But if the soil and the air, in connection with agriculture, may reasonably claim the attention of all, it seems to force itself upon that of the farmer, and it is in that aspect of the subject, almost exclusively, in which it appears to him, that I have now to ask your attention. It certainly must have sometimes occurred to those who cultivate the ground and superintend the growth of crops, to ask where these crops all come from. Do you think that they come out of the land—from the soil on which they grow? Let us just consider this question in detail. Take the case of a forest of trees. Did all that wood come out of the soil? Suppose a man to plant an acorn in a piece of clay land and watch its growth. He sees the shoot and

the young tree increasing in size, and if he should live long enough, he would ultimately see the old tree with its trunk, its branches, and its twigs, containing perhaps 40 or 50 tons' weight of wood—a result of the life which was resident in that little acorn. Where did it get that wood? The roots of the oak grow downwards in the earth to a great depth—do they find its woody matter there? They also spread on the surface to some extent, but do you think that there is enough of the woody charcoally matter there to furnish the material of that great tree? It was a poor clay when the acorn was planted, and no one has been near the place since to supply the growing plant with the matter it wanted. We may suppose the tree to have stood in a forest near which no dung cart ever went, so that no supply of food for the plant could have reached it beyond what existed when the seed was planted, and then the soil was very poor, and contained none of the material which has since appeared in the stem and leaves, and branches of that great tree. How did they obtain it? The thing certainly appears difficult of explanation.

Take the case, too, of any of our common crops—of our grass lands, for instance. Let us imagine the case of a dairy farm of 100 acres; we may suppose it to be able to maintain a herd of 30 cows. What will such a farm produce in a year? Suppose it to be good land, able to keep a stock of good sort. Perhaps I shall not be far wrong if I put the produce of a cow at something like $3\frac{1}{2}$ cwt. of cheese, and 30 or 40 lbs. of whey butter every year; and besides this, there may be some bacon made from the waste of the dairy. Well, then, a farm of 30 dairy cows will yield nearly five tons of cheese, and eight cwt. of butter in the year, besides this bacon. That quantity of butter and cheese are exported annually from that extent of grass land. Now, where did that butter and cheese come from? Have they been made out of the substance of the cows? They are as heavy now as they were. It has not been made at the expense of the cows—any more, indeed, than the wheat or the barley, which comes from the threshing machine, is made at the expense of the machine. The cows are merely the machines by which the cheese is made out of the food they eat, and just as the wheat is in the rick that is being threshed, so the cheese resides in the grass that is being eaten. Well, then, where does the grass get it? From the soil, do you think? Just consider; take a hundred years—what has been added to the soil of that farm during that period? Hardly anything; the farmer may perhaps have bought some bran and some meal every season for the pigs; but then he has sold the bacon made by his purchases, so that the farm has lost as much as it has gained, in that respect. He has bought no manure. It will not do to say the farm continues to yield the grass because of the manure that is added, for none has been added to the farm, none has been brought on the farm. Manure, has, no doubt, been added to the fields, but none has been imported from without the

farm, and yet, five tons of cheese have been exported every year; and how has that great draught upon the farm been maintained without loss? The manure that is applied to the field helps the grass greatly; but it cannot supply the cheese I speak of; for you must acknowledge that the manure is just what remains of the grass after the cows have taken the butter and cheese out of it, so that every year, the land is robbed of so much cheese; that is, if the cheese be in the soil. But can you believe that it is? Can you believe that every year, the soil of this farm is the poorer by five tons of cheese than it was? Why, how long has it stood this waste? If we suppose that it has been yielding at that rate during 1,000 years, there must have been 5,000 tons of cheese in the soil of that farm—50 tons of cheese in every acre of it, at the beginning, and if anything, the farm is more fertile now than it was then—fuller of cheese, no doubt, than ever; so that for all we know, there must be thousands upon thousands of tons of cheese in it still. Ah! but that explanation cannot stand; we cannot believe that the wood of our trees, nor the cheese, or the butter of our dairy farms comes out of the soil. Where do they come from then?

Now, before attempting to answer this question, let us take the case of an arable farm. Suppose we take our own, at — for instance. It contains about 270 acres of land—off 120 or 130 acres of it, every year, we cut a crop of wheat, which may average from 32 to 36 bushels of wheat per acre; and besides these, 4,500 or 4,600 bushels of wheat, we sell annually, probably, ten or eleven tons' weight of beef, mutton, and bacon; that is, the animals we sell off, are, on the whole, heavier by that weight, than they were when brought on. We buy some 100 or 200 bags of meal and linseed as food for the live stock every year, so that much is added to the soil every year, and that may account for 500 or 600 bushels of wheat we sell off; but where do we get the 4,000, and where does all the beef and mutton that we sell, come from? It will not do to say that it comes from the manure; for set a watch upon the entrance gate of the farm, and count what goes in and what comes out of it in a year; hardly any manure goes in, and you will find that 4,000 bushels of grain go off the farm in a year, and you will find that ten or eleven tons' weight of meat go off the farm more than comes on it in the year. Where does all that food come from? The question is, whether or not it can be supposed to come from the soil.

During the past ten years, we must have sent off the farm 30,000 or 40,000 bushels of wheat, and 100 tons of meat. I take our own case as it is, the only one I am perfectly acquainted with; but any cultivator of the soil will, if he looks back a few years, have to acknowledge the same remarkable truths in the case of his own farm. Do you think that all that bread and beef came out of the land? Why, the land is richer and better after all that has been taken out of it than it was before; and if it be kept in cultivation for years to come, it

may yield hundreds of thousands of bushels of wheat yet; they are not there now, most certainly—where will they come from? Neither the wood of our trees, nor the dairy produce of our grass lands, nor the grain and meat of our arable lands can be supposed to come from the soil. If all the wheat, oats, rye, barley, beans, peas, bacon, butter, cheese, beef, mutton, and so on, that England has produced since it was first cultivated, were piled upon the land now, it would be more than a foot deep over the whole island. Deeper than the soil itself is, on the average, over the country. And should things remain as they are for another 1,000 years, the land will have yielded another such lot; that is, more food in point of bulk and of weight, than the soil itself actually is. Where has it, where will it all come from? That is the question. [The answer will appear in our next number.—Eds.]

ELECTRO MAGNETISM, AS A MOTIVE POWER.

PROFESSOR PAGE, in the lectures which he is now delivering before the Smithsonian Institute, states that there is no longer any doubt of the application of this power as a substitute for steam. He exhibited the most imposing experiments ever witnessed in this branch of science. An immense bar of iron, weighing 160 pounds, was made to spring up by magnetic action, and move rapidly up and down, dancing like a feather in the air, without any visible support. The force operating upon this bar, he stated to average 300 pounds through ten inches of its motion. He said he could raise this bar 100 feet as readily as through ten inches, and he expected no difficulty in doing the same with a bar weighing one ton, or a hundred tons. He could make a pile driver, or a forge hammer, with great simplicity, and could make an engine with a stroke of six, twelve, twenty, or any number of feet.

The most beautiful experiment we ever witnessed, was the loud sound and brilliant flash from the galvanic spark, when produced in a certain point in his great magnet. Each snap was as loud as a pistol, and when he produced the same spark at a little distance from this point, it made no noise at all. This recent discovery he stated to have a practical bearing upon the construction of an electro-magnetic engine. Truly, a great power is here; and where is the limit to it?

He then exhibited his engine, of between four and five horse power, operated by a battery, contained within a space of three cubic feet. It looked very unlike a magnetic machine. It was a reciprocating engine of two feet stroke, and the whole engine and battery weighed about one ton. When the power was thrown on by the motion of a lever, the engine started off magnificently, making 114 strokes per minute; though, when it drove a circular saw ten inches in diameter, sawing up boards an inch and a quarter thick, into laths, the engine made but about eighty strokes per minute. There was a great anxiety on the part of the spectators to obtain specimens of these laths, to pre-

serve as trophies of this great mechanical triumph.

The force operating upon the magnetic cylinder throughout the whole motion of two feet, was stated to be 600 pounds, when the engine was moving very slowly, but Professor P. had not been able to ascertain what the force was when the engine was running at a working speed, though it was considerably less. The most important and interesting point, however, is the expense of the power.

Professor Page stated that he had reduced the cost so far, that it was less than steam under many and most conditions, though not so low as the cheapest steam engines. With all the imperfections of the engine, the consumption of three pounds of zinc per day, would produce one horse power. The larger his engine, (contrary to what had been known before,) the greater the economy. He was himself surprised at the result. There were yet practical difficulties to be overcome; the battery had yet to be improved; and it remained yet to try the experiment on a grander scale, to make a power of 100 horses or more.

Truly, the age is fraught with wonders, and we can now look forward with certainty to the time when coal will be put to better uses than to burn, scald, and destroy.—*National Intelligencer*.

IMPROVED HAY RAKES.

AMONG other improved agricultural implements, is the revolving hay rake. And from the immense saving of labor and of time, I am surprised that so few persons in this section of the state use it. I say saving of labor, for, if ever there was a labor-saving machine, this is one of them, as it comes into use just at a season when labor is highest and most wanted for other purposes. A man, with a boy and horse, can gather as much hay in a given time, as eight or ten men can with the common hand rake; and at the same time with greater ease. I would much rather rake my meadows twice over after a revolving horse rake, than once by hand before. This, however, is not often necessary where the fields are free from stumps and stones.

Notwithstanding this great improvement, there are but few persons, who will not go on from year to year and pay their dollar or dollar and a quarter a-day for hand hay rakers when they might just as well make "Old Jack" do it all, only by using a little of the right kind of economy. But enough for the present.

L. DURAND.

Derby, Ct., Oct., 1850.

TO PREVENT FERMENTATION IN CIDER, WINE, OR BEER.—Add a small quantity of sulphite of lime; or bruise mustard seed, 14 ounces to 1 ounce of cloves, and add to the liquid when first put into the cask; or a small portion of each may be added. The article is sulphite and not sulphate of lime. It is quite innocuous in any quantity.

SKETCHES OF CANADA.

Kingston.—There is not much in, nor about this town to excite the attention of an agricultural traveller. It is situated at the northeast corner of Lake Ontario, in latitude $44^{\circ} 15'$, upon a formation of blue limestone that affords a very abundant, cheap material for building, as may be seen in the numerous handsome edifices in and around the city, which is said to contain 13,000 inhabitants, counting the large military force stationed here, and all that are in, or ought to be in the penitentiary, and including all the suburbs. It is in appearance and manners of the people, very English, and some of their customs are very unlike those of our Yankee notions. For instance, the times of eating—breakfast at 8 o'clock, lunch at $12\frac{1}{2}$, dinner at 5, and tea at 8. This custom, also, prevails at Toronto and many other places.

I before remarked that the Canadians have a sort of fancy for showing off in one extravagantly-fine public building—a sort of Mormon Temple. In this particular, Kingston has made a display of the grandest order in her market house. It is built in the form of a T, the front 240 feet, two stories high, with a large dome in the centre, affording room enough for all the courts and public offices the city will require for five centuries. The end of the projection, or bottom of the T, is also two stories, surmounted by a balcony and clock, and if it stood alone, would appear like a large building. The long intervening building is the butchers' market above, and sundries in the basement. The whole is of beautiful, hammered stone, and certainly presents an imposing appearance. There are, also, several very handsome stone churches, court house, jail, barracks, nunnery, Catholic seminary, hospitals, storehouses, and dwellings, and a little north of the city, fronting the bay, the extensive buildings and walls of the penitentiary stand out in bold relief to warn the honest man to remain so. Upon the other class, it has but little effect, for "A rogue's a rogue for a' that."

The whole front of the town is fortified in such a manner, that the whole Yankee nation never would be able to take it—until they made the attempt. Two routes of navigation to Montreal are open from here, one by the river and canals of the rapids of the St. Lawrence, and the other by the Rideau Canal and the Ottawa River.

There is very little wheat raised around Kingston, notwithstanding its limestone soil. And I believe very little, if any produce, is exported. Grass seems to be the principal crop; but if I may judge from the few cattle I saw alive, and the carcasses in market, both cattle and sheep are of the small order. Horses are not generally so good as at Toronto, and I fancy there are few places where they are. Oats are a considerable crop, and are now, August 20th, being harvested, and I suppose will be eaten by some other animals beside horses, as I saw several signs of "oat meal for sale." Barley is also grown largely, or else it must be imported; for certainly, it is much used after

being reduced to a liquid form, to which is added a few hops. And I wish it to be distinctly understood, that I am not of the opinion that this is the only drink made use of by the Canadians. I certainly do believe the prevailing habit of excessive drinking is one, if not the cause of want of energy to improve the agriculture and manufactures of the province. It is a misfortune that rests incubus like upon the great body of the people; and I do most respectfully suggest to agricultural societies, to offer premiums to all farmers who will dispense with the use of all intoxicating drinks upon their farms, as one of the means best calculated to arouse a spirit of improved agriculture. Another important consideration should be to induce farmers to read. This may be done in some degree by giving agricultural papers and books with all premiums, and to all who become members, as is now the case to a limited degree.

I met, at Kingston, with Mr. Marks, the acting president of the Colonial Agricultural Society, a very respectable and worthy individual, no doubt, but altogether too much of the "ancient and honorable fraternity" of Auld Lang Syne, for a station that requires vigor of body and intellect, and a little "book knowledge," to infuse a spirit into the farmers that no amount of money which parliament may grant will ever accomplish. One of the curious things one sees here, contrasting with towns in the states, is the military, pacing up and down before one's house, as sentinels, or in squads, at every corner, or occupying many a bar room, or drinking shop, of which there is no scarcity. I witnessed the march of somewhere near a thousand of "Her Majesty's Rifles," through the street, on Sunday, going to church; all stout, athletic young men, and I could not help thinking what an amount of human food might be produced by the well-directed labor of all these eaters of the bread of idleness.

A Big Dairy Farm.—While leaving Kingston, one of the Thousand Islands we passed, was pointed out as a very extensive dairy farm, owned by a Kingstonian, upon which my informant stated, the owner keeps two hundred cows. Whether the number stated is correct, I cannot say. It only seemed large, because it was in Canada. In New York or Ohio, I should not have doubted nor wondered.* From the yards, spouts are made to conduct the milk to broad tin vats in the milkroom. The land upon these islands is very level and thin upon its limestone foundation, and of but little value for any other crop than grass. The marks of improvement are very primitive, so far as seen from the boat in passing. SOLON ROBINSON.

TO PREVENT OXEN FROM HAULING OR CROWDING.—It is only necessary to lengthen the yoke to break oxen of this vicious habit. In some instances, particularly in lumbering with heavy teams on the road, we have been obliged to make yokes 12 to 18 inches longer than those ordinarily worn.

* Afterwards I was informed the true number is 130.

THE HOG.

RAMBLING, not long since, along the high street of one of the pretty villages of this neighborhood, we espied a female porker, with a numerous litter of irresponsibles by her side, rooting up the flowers of a beautiful grassy dooryard, in front of one of the many neat and agreeable residences of the place. Observing this, from his parlor window, a well-dressed, gentlemanly-looking man, whom we afterwards learned was the doctor of the village, stepped out, and in endeavoring to drive the great beast and the little "beastesses" from his premises, he was rudely jostled by the large one, and caught an unlucky fall. Rising quickly, more soiled in his clothes than injured in his person, he speedily succeeded in clearing out the disagreeable intruder; then, shutting his dooryard gate, and drawing himself up to his full height, he broke forth into the following not very flattering objurcation:—

"If there be anything I do most heartily detest above all the beasts of the field and fowls of the air, it is that filthy brute—the hog. He was doubtless one of the curses sent after the fall of Adam to punish us for our many sins; but our Creator, in kindness to us, afterwards pronounced him *unclean*, and not only unfit to be eaten, but that he should be abhorred and driven out of the sight of all human beings. Jews, Mahomedans, and a few Pagan sects detest him; but we Christians, with a higher and purer faith, cherish him as we would a charmed serpent, even in our bosoms. Faugh! The foul, hated, unclean beast he is; and the dire author of half of the most disgusting diseases which afflict humanity! What breeds leprosy? The hog! What breeds cancer? The hog! What breeds scrofula? The hog! What originated other horrid diseases, the names of which I dare not mention? Again I say, the hog! 'Tis to this abominable quadruped we owe all our cutaneous diseases, consumption, smallpox, measles, and collateral maladies too numerous to mention; and for this reason, an All-wise Creator, under the Mosaic law, forbid man eating his flesh. Delicate-cured ham, pork boiled, baked or fried, roast pig, and sausages, I hate and thoroughly detest ye, one and all, as unfit to be eaten.

"Hence, then, ye foul monsters, the authors of all these; would that ye were annihilated! If men will be meat eaters, let them take beef and mutton, and poultry, and not the vile hog. Oh, destructive beast! Here you have rooted up my lawn, trampled down my beautiful flowers, and as though this were not enough, run your unclean carcass against my person, sadly defiling my clothes. Strange that man can cherish hogs, and above all, allow them the free privilege of our streets. Only see them. There they go along our foot walks, dropping their ordure for the delicate feet of woman to tread upon, and yet no one durst raise an outcry in the matter. We are overawed and overruled by a few filthy loafers; and though we have passed a law against swine running at large in the streets of

our beautiful village, still, no one durst put it in force, for fear of his popularity! Popularity? Must we be popularised at such a filthy rate as this? Heaven forbid! Henceforth I'll doctor every hog that I find, gratis. I'll give them corn pills without charge. Charge, did I say? No, there are a few kinds of charges they shall have to their owner's entire satisfaction; and these are, ratsbane, oxalic acid, cocculus indicus, strychnine, &c., *secundum artem*. I'll save the village the nuisance of these filthy beasts, the expense of empounding, and the loss and annoyances of their depredations. Hogdom, henceforth, shall be populated with their unclean spirits."

FORCE PUMPS.

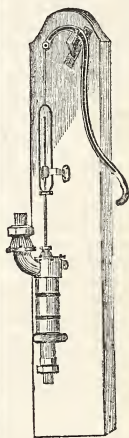


FIG. 82.

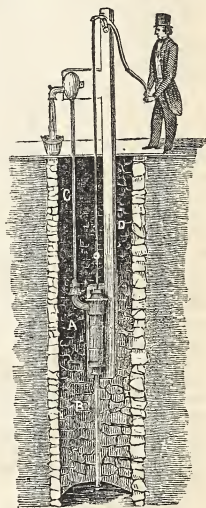


FIG. 83.

We give above, two cuts of the *forcing* or *lifting* pump, as it is distinguished from the *suction* pump. Fig. 82, shows the pump as sold from the warehouse. Fig. 83, as it is placed in the well, the only difference being in the position of the latter, which is in the well, with the suction and forcing pipes attached, and the rod, connecting the piston with the handle, lengthened. It will be seen that the force pump is also a suction pump, and capable of *drawing* water 32 or 33 feet, while its capacity for forcing it upwards in height, is limited only by the strength of the pipes, and the power applied for this purpose.

The force pump has not until recently been sold at moderate prices, but late improvements enable the manufacturers to sell them as low as \$12 or \$15, for ordinary pumps, and from that up to \$500, or even more, for the largest and most complete article.

CONSTRUCTION OF LIME KILNS—BURNING LIME.

The form of lime kilns vary; some being constructed inside in the shape of a hoghead, or of an egg, opened a little at each end, with the diameter at the bottom small, gradually widening towards the middle, and then contracting again towards the top; while others are made in the form of a sugar loaf, with the small end down; others, again, are of an oblong oval in the ground plan, as well as at the middle and top. The first of these forms is most generally in use, and when the sides are nearly perpendicular, it is observed that less fuel is necessary, in consequence of the great degree of heat which is created, above that which occurs in kilns formed in the shape of a

or inclined plane, of earth or stone, for carting up the fuel and limestone to their tops.

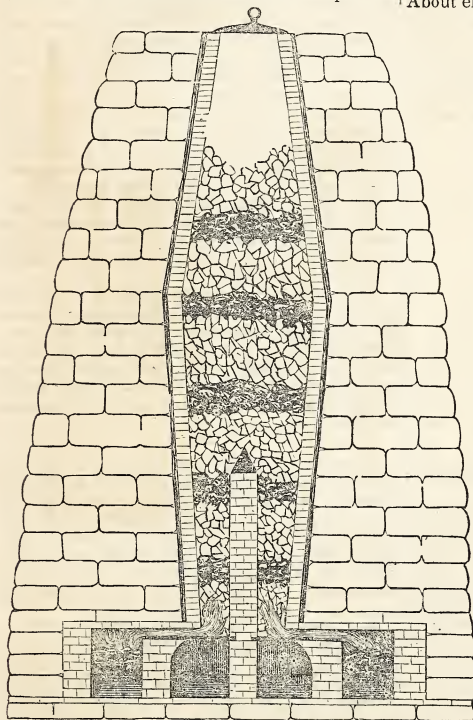
A kiln of approved construction, suitable for burning lime with coal, or other dry, smokeless fuel is denoted by fig. 84. It is supposed to be built on the side of a bank or cliff, of a circular form within, 32 feet high from the iron grating over the pits, three feet in diameter at the top, and seven feet across, near the middle, at a point eighteen feet above the grating. The walls are designed to be built of stone, from three to six feet thick, and lined with bricks. Below the shaft, or hollow of the kiln, are two arches, or pits, each three feet wide and three feet high, divided by a partition wall eighteen inches thick, extending up the shaft ten feet. About eighteen inches from each arch, or pit, is

an oven, say two and a half feet square, where coal is used for fuel, and somewhat deeper, where wood is employed, communicating with the shaft by narrow flues. Below the shaft, are two moveable iron grates for dragging out the lime after it is burned. The ovens, as well as the arches under the shaft, are provided with iron doors, which are to be closed whenever it is desired to stop the draft. An iron cap, or cover, is also provided, to be placed over the top of the kiln, to prevent the escape of more heat than is necessary to keep up the combustion of the fuel. This cap is also furnished with a damper, or valve, for regulating the draft.

In a kiln like that described above, it is obvious that the lime can be well burnt, with a comparatively small amount of fuel, in winter as well as in summer, and that the farmer or others can be supplied with lime, at any time, without extinguishing the fire. All that is necessary to be done, is, to supply the broken limestone, or shells, and the fuel at the top of the kiln, and rake out the burnt lime through the iron grate, or opening, at the bottom, as fast as occasion may require. In case it may be necessary to check the burning for a time, nothing more is necessary than to close the iron doors at the bottom of the kiln, and the cover, or cap, at the top, when the fire may be kept alive for four or five days.

When the kiln is to be filled, the limestone should be broken into pieces about the size of a man's fist, and laid in alternate layers with the coal, usually in the proportion of three of the former to one of the latter; but, as limestones vary much in their character, the proper quantity of fuel can only be regulated by trial. The coal should not be placed nearer the lining of the kiln than eight or nine inches, in order not to melt nor burn the bricks.

The class of lime kilns in common use, in the United States, are similar to that of Mr. Ward



LIME KILN.—FIG. 84.

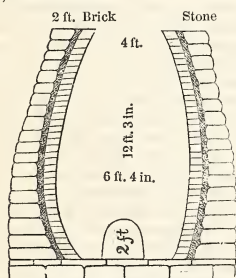
sugar loaf reversed. Near the bottom of large kilns, two or more openings are made for admitting the air necessary for supplying the fire and for dragging out the lime after it is burnt.

Lime kilns may be built either of stone or bricks; but the latter are considered preferable, particularly for the inside lining, as they are better adapted to stand a high degree of heat. They should always be situated at, or near, the quarry, and if possible, in the side of a cliff or bank; or they may be furnished with a "ramp,"

Priest, of Lisbon, New Hampshire, described by Dr. C. T. Jackson, in his "Final Report of the Geology and Mineralogy" of that state.

"The kiln holds about 35 tierces of lime. Each tierce holds six bushels. One which I measured, was two feet, four inches high; one foot, nine inches head diameter; bilges, to one foot, ten inches. The kiln is egg-shaped, and measures twelve feet, three inches in height, four feet in diameter at the top, six feet, four inches in diameter at the boshes (a little below the centre). Arch for fuel, two feet high. The walls of the kiln are two feet thick, and are made of mica slate, lined with common bricks. It cost \$150.

"Mr. Priest says that common bricks soon glaze over on the surface, and withstand the heat sufficiently well. Four days and three nights are required for burning a kiln of lime, and ten cords of wood are consumed in the operation. From two or three men are employed. The cost of wood, cut, split, and delivered at the kiln, is \$1 per cord. The lime sells for \$2 per tierce, at the kiln."



COMMON LIME KILN.—FIG. 85.

IMPORTANT DISCOVERY—LARD RENDERED FLUID BY MIXING WITH ROSIN.

PROFESSOR OLMSTED, of New Haven, has lately made the important discovery, that, by adding one pound of powdered rosin to three pounds of lard, well stirred together, the mass becomes semi-fluid at 72° F., and on being melted, which it does at 90°, notwithstanding if melted alone the rosin requires 300° and the lard 97° of heat, the compound will remain transparent and limpid at that temperature. As it cools, a pellicle begins to form on the surface at 87°; and at 76°, it remains a dense semi-fluid.

The discovery of the above-named fact will be of great importance to those who use lard lamps, as the lard is rendered more fluid by the rosin, and the power of illumination increased two fifths; yet, after two hours' burning, it loses its brilliancy on account of the wick becoming clogged. This will not be an important objection in families, while in point of economy the gain will be considerable; for lard is worth three or four times as much as rosin.

To machinists, the discovery is very important, as it enables them to make use of lard, instead of oil, which is not only a saving in cost, but

what is of far more importance, the addition of the rosin completely neutralises the quality of acidity in the lard, which corrodes metals, particularly brass and copper, to such a degree it is unfit to apply to anything not in constant use. Professor Olmsted says, a thin coating of the compound laid upon a grate or sheet-iron stove with a brush, as thin as possible, will keep it free from rust all summer, although stored in a damp place.

To soap makers, the discovery is also important. If one pound of the compound is added to two pounds of common Windsor soap, the quality is greatly improved, and the tendency that soap has to grow rancid, when in use or kept moist, is thus entirely prevented. A Shaving cream of an excellent quality, may be made by taking a cake of good shaving soap and steaming it soft in a close cup, and mixing half its weight of the compound, and working it well together; adding a little oil of almonds or any other agreeable flavor.

The same compound applied to boots and shoes renders them nearly impervious to water, and if applied to the soles, will not soil the floor. The uppers will be soft and pliable, and not prevented from receiving a blacking polish.

For oiling carriages, the mixture of lard and rosin will be valuable; and when wanted for heavy wheels, a proper consistency may be given to it by adding wheat flour, or if greatly preferred, black lead.

No doubt the soap paste above described would be a good lubrication for carriage wheels. We hope this discovery will increase the consumption of lard, and thereby give an improved market to the farmer, and thus enable him to turn land into lard, and lard into light, and in the mean time enlighten his mind and improve his condition.

ALDERNEY BUTTER—CHOICE GRAPES.—We received, a few days since, from R. L. Colt, Esq., of Paterson, through his excellent dairyman and herdsman, Mr. Nicolas, a few rolls of the most delicious yellow butter we ever tasted. We had before eaten of the same at his own table, which is liberally supplied with this rare, (American,) luxury, from his pure Alderney stock.

And while Mr. Colt is connected with our paragraph, we may as well notice the splendid collection of choice foreign grapes, at his magnificent villa. Over 500 pounds had been sent to market this season from a single conservatory, which brought \$1 per pound, besides what were used at his table and given away; and we presume a greater amount were still clinging to the vines, presenting one of the most beautiful sights in nature. When will all our country gentlemen learn to bestow their leisure time and superfluous wealth thus worthily?

WHITE BLACKBERRIES.—We notice the production of this curious berry, at Danvers, Massachusetts. We wonder if white crows are fond of them?

STORING TURNIPS AND OTHER ROOTS FOR WINTER.

THROUGHOUT almost the whole region where roots are raised in any abundance for stock feeding, in winter, this is the most important month in the whole year; for now is the season in which they must be secured against frost. Nine tenths of all those which are lost every winter might be saved by attention to them this month. A few hints, although often before given, will still be useful to some of our readers, new beginners, perhaps, as to what should always be done in putting away these valuable crops for winter.

Storing Turnips.—First, be sure and pull them in dry weather, if possible. Throw them together as they are pulled, but not in large heaps; otherwise, the dirt adhering, will become mud by the sweat of the pile before the tops are cut, if suffered to lie any considerable time. Never pull nor wring off the tops, but cut them smooth with a sharp knife. Select a dry, smooth spot upon descending ground, to form the heap, which may be long or round, provided no round pile exceed 100 bushels. Lay the roots in a smooth pile, the sides on an angle of about 45°, and cover with straw, laid on straight, so as to form a good thatch. Rye straw is the best. Cover with just earth enough to preserve them, which will vary from two inches to two feet, in different latitudes of this country. No definite rule can be given. In all the warmer latitudes, the piles, or heaps, should be provided with ventilators. Nothing is better for this purpose than a bunch of fagots about six inches through. Four boards, six inches wide, nailed together, and bored full of auger holes, set in the centre of the pile, like a chimney, will answer an excellent purpose. The ventilator must be protected against rain, and carefully covered before freezing weather.

In digging the dirt around the pile for covering, form a continuous ditch, in order that water cannot run in. Be careful the roots are dry and sound when put away, and you may be assured they will keep in fine condition.

Storing Common Potatoes, by the same rules, will be found most effectual. If you ventilate the heap, as above directed, you need have no fear of covering it too warm at first.

Storing Sweet Potatoes.—These are very difficult to keep, in all places, particularly in freezing climates. They must be kept very dry and warm. And yet not too warm. A very good plan is practised by Dr. Philips, of Mississippi, first, by laying down a bed of cornstalks several inches thick, which serves as an underdrain and ventilator, leading from the sides to the one in the centre. The outside, he also covers with cornstalks and a very little earth, and the whole protected with a temporary roof. It is a very cheap, and with him, a very effective way of preserving this most valuable edible root for all the southern portion of the United States.

Mr. DeLaigle, of Augusta, Georgia, raises from 3,000 to 5,000 bushels of sweet potatoes every year. A very common crop with him is

300 bushels per acre. His method of preserving them is in an immense roothouse, made of bricks, partly below the surface, in which the roots are stored with pine straw, which is one of the best absorbents of moisture he could use, and serves to keep the potatoes free from the dampness so natural to them.

Storing Beets and Carrots.—These roots require much more careful handling than turnips and potatoes, but with proper attention, may be put up and kept in the same way. Beets are often injured in cutting off the tops. They must not be cut too close, if you would keep them sound through the winter. Do not try to beat off the dirt adhering to the small rootlets. Let it dry and then adhere as much as will. To keep these delicious roots fresh and sweet for family use, pack them in dry sand, in a cool, airy cellar, but not cold enough to freeze. S. R.

WHY IS THE GARDEN MORE FERTILE THAN THE FIELD?

THE universal answer to this question, is, because it is more highly manured, and therefore has a richer soil. This is not always the case. But it is owing to the finely-pulverised condition of the beds, that gives it a highly absorbent power to attract moisture from the atmosphere—a source of fertility that many farmers scarcely seem aware that they possess. If the soil of the field were as carefully worked, and fresh earth constantly exposed to the atmosphere, as in the well-tended garden, the land would increase, rather than deteriorate in fertility. Let the rule be, “plow deep, cultivate well, pulverise lumps and sods, and return the straw to the soil,” and you may carry off an immense quantity of human food, and still have a fertile soil remaining.

Plants, in their nature, are organised beings. By means of their roots they take up food from the soil—and often, the very food which the soil has taken up by its power of absorption from the atmosphere, and which power is increased to an almost indefinite extent, by disintegrating the particles of which it is composed. The very act of plowing and harrowing, is an act of manuring. The act of stirring the earth, in times of drouth, serves as a watering of the plants. The moisture thus absorbed is loaded with a fertilising power that is lost upon a hard surface, for it lacks the power of absorption.

If, then, you would have your fields as fertile as a garden, you must not depend alone upon manure, but pulverise freely, not upon the surface alone, but deep below it.

FEEDING STOCK ON PEA FIELDS.—This is the month more than all others that cattle and hogs die from eating peas. Be careful and feed your hogs well with corn or salt slops, before turning them in. Salt and feed your cattle well. Do not turn hungry cattle upon fresh pea vines. If you have not hogs enough this year to make your meat, look out now for a supply, before they are put up to fatten. You can raise pork better than you can buy it with cotton.

PREPARE YOUR WHEAT FOR WINTER.

A VAST portion of winter-killed wheat comes in consequence of wanton neglect of the plainest dictates of common sense, while putting in the seed. Thousands of acres are sown every year upon hollow places in the field, which, although the richest spots, are covered with a pool of water whenever a heavy rain falls.

Without offering our own opinions or stopping to discuss the mooted question, whether wheat will produce ches or not, we can safely say that all such spots in the wheat field will be much more likely to produce it than the adjoining ground that is free from standing water; and that spots are often to be seen at harvest, covered with this worthless grain, where a single furrow, or fifteen minutes' labor, would have opened a drain and kept the soil dry, and given the owner several bushels of sound wheat for such a very small outlay of labor.

It is a wanton waste of labor and seed to throw it away upon a flat clayey surface without turning water furrows to carry off the winter rains as they fall. It is only upon such neglected spots that the advocates of transmutation contend the change takes place. And as wheat is so much more valuable than ches, it is perfectly surprising that any people will prepare the ground exactly right to produce the latter. So well do the wheat growers of Lower Virginia understand the benefits of drainage, that they sow almost universally in beds, and in many places, these are only five feet wide; that is, the wheat is sown upon beds of the same width as Indian corn is planted, and the advocates of narrow beds contend that they can make more wheat than those who sow upon nine or fifteen-foot beds.

Until American farmers learn the great value of underdraining, we must constantly remind them of the necessity of keeping the surface dry by open ditches. To every one of our readers, therefore, who has an acre of wheat sown, we say most earnestly, go at once and examine whether any little pools of water stand after a shower, and if so, take steps immediately to drain it off as fast as it falls, or you cannot expect to grow wheat, though you *may* grow ches or weeds.

TO PREPARE ASPARAGUS BEDS.

SELECT a rich spot exposed to the sun; trench it four or five feet deep, and pulverise all the lumps of earth. If the earth were sifted, it would be all the better. Put six inches of good strong manure at the bottom, and on it a layer of thick grass sod; then another layer of manure, and afterwards, six inches of earth. Repeat these layers, and put on top, twelve or eighteen inches of soil and fine manure, well mixed together. Make your beds about five feet wide and set the roots out in the commencement of garden work in the spring, about fifteen inches apart, placing the crown about an inch and a half below the surface, with a stick to mark the location of each root.

The plants should be two years old when set,

and in placing them, care should be observed to spread out the roots into a natural position. After the bed has settled, give the surface a dressing of white sand, and do not forget to put salt enough upon it every year to kill all the weeds. It will then yield an abundance for many years.

EMPLOYMENT OF POORHOUSE CHILDREN.

WE have heretofore made repeated suggestions in our paper, of the practicability of profitably employing the children of poorhouses in agricultural labor. Nothing would more certainly benefit them morally and physically. But in order properly to carry out this plan, it would be necessary to have eligibly-situated farms and gardens, with capable and trustworthy superintendents, to watch over and direct them. Children have a much greater capacity for profitable labor at an early age, than is generally attributed to them. They are full of activity, and yearn for employment; in fact, employment of some kind is absolutely essential to their health.

If advantage is not taken of this desire for activity, and a right direction is not given to it, then it will take a vicious, or at least, an idle course, and great waste, or incalculable injury is the result. Stimulate a child by giving him some little remuneration, and he will take as much delight in work as play. There never was a better field for a benevolent mind to operate in than that of obtaining agricultural employment for the thousands of poor children, annually thrown upon our shores by foreign immigration; for of our own poor, thanks to the advantages bestowed upon America by a beneficent Providence, there are very few.

CALIFORNIA MODE OF CONSTRUCTING DAMS.—

The Californians now make their dams for turning the course of rivers, on a plan which the French engineers, who have emigrated there, have taught them. They fill bags made of drillings, about one yard square, with sand. This makes a good dam with a tenth part of the expense and time of digging a race. It will probably make an increased and continued demand upon drills, and thus help the manufacturers of this article which has been so long selling below the cost.—*Exchange.*

THE IMPORTANCE OF LEAVES TO PLANTS.—

Leaves are the principal organs of nutrition, through the pores, (stomates,) of which they receive a large proportion of their food. The number of absorbing pores upon a square inch, is shown in the following table, the chief part of which, it will be seen, are found on the under side of the leaf:—

	Upper Side.	Under Side.
Vine,	None	13,600
Rhubarb,	1,000	40,000
Lilac,	None	160,000
Cherry laurel,	None	90,000
Mistletoe,	200	200
Olive,	None	57,600
Holly,	None	63,600
Clove pink,	38,500	38,500

REVIEW OF THE OCTOBER NUMBER OF THE AGRICULTURIST.

The Traveller.—Yes, he is always coming or going here, there, and everywhere, picking up useful information for the readers of the Agriculturist. If it ever comes in my course upon some future voyage, I should greatly enjoy a visit to that Delaware farmer he speaks of, and his fine herd of Devon cattle—a breed that I have been fond of ever since I was big enough to appreciate beauty, whether clothed in hair or silk. I am surprised at the quantity of milk and butter they give. These Devons beat mine, although it is considered one of the best milking herds in old Connecticut.

Researches on the Sugar Cane.—There are some things in this article well worth the attention of American sugar planters. Science has done much for this culture, and will do much more. Applied to agriculture, it is no longer an obsolete idea.

Massachusetts Farming.—The writer says much improvement has been effected of late years, owing to high prices of all articles raised by farmers, which they obtain from manufacturers of various kinds, established among them. An excellent home-market argument. If all the farmers of America could but see that the increase of manufacturing establishments in this country is decidedly for their interest, we should hear but little said in favor of importing all we need, except agricultural products—fruits, vegetables, butter, cheese, milk, poultry, and eggs, all find sale. Manure is made or bought, the capacity of the soil is increased, and becomes more valuable; all classes flourish, and happiness abounds, where that which is needed for home consumption is home manufactured.

Poultry Raising.—Mr. Miner is death on the most fashionable speculation of the day, in the first sentences of his article; but just as we are about giving up the ghost, (of a fortune in the hen line,) he saves us by the consoling information that a "small fortune is sure," if we only follow the directions laid down by him—provided we do not count the chickens before they are hatched. There is one truth in his article which is worthy of notice; that is, no foreign breed of hens are at all to be compared to our own good old domestic sorts, for raising poultry and eggs for market.

Premium Butter.—These statements, from the Transactions of the New-York State Agricultural Society, could not well be more meagre and unsatisfactory, or perhaps uninteresting to the reader. By "cyphering" out Mr. Van Ness' statements, we may find out one very remarkable fact, and that is, if the daily average given, continued through the whole thirty days, his milk averaged a pound of butter to a fraction over twelve and a half quarts of milk, and the cows averaged a fraction less than a pound and a half a day! both of which are somewhat extraordinary yields. "The salt used, was from the Pacific Rock-Salt Company." Who, what, and where is this salt company, and why is *Pacific rock salt* better than any other pure arti-

cle? I will grant anything is better than some of the miserable stuff sent into market from the New-York State works.

Mississippi Planting.—There is more in this article than will strike most readers at first view. The Doctor says he can now raise eight bales of cotton with less labor than he formerly did six, upon the same land. A very great improvement; and how is it brought about? Simply by substituting good plows in place of poor ones. Is it not worth while for some more of us to look around and see if we cannot go and do likewise?

Improved Harrows.—Who is this writer that says the old forked stick with wooden teeth for a harrow, is still used in Connecticut? Out upon the slanderer. Do not think anybody will believe that, in this enlightened age of agricultural improvement, such a heathen can be found in the state of Connecticut, where all learn to read and write, and may learn to see, if not use good farming tools. And when once seen, can they ever after use such a miserable one as you describe? No sir. The idea is preposterous. You must take that back. Eat your own words. For the honor of our state, don't let it go abroad that "many of the farmers in this section of the state use no other harrows than those with wooden teeth." Why, you might just as well say they are a set of wooden-headed, forked animals, that don't know any better. Thank fortune, no one will believe such stupidity exists anywhere, except in South Carolina or some other benighted land of heathens, where they dig up the ground with hoes, or load manure into a cart with wooden trays, or some other practice equally behind the age. A wooden-toothed harrow in Connecticut, in the year 1850! I won't believe it! That is worse than Mr. Robinson's account of the Old Bog Meadow.

Reclaiming Wet Lands.—"The situation of my land which I have drained, was formerly springy and cold." Just the situation of thousands of acres all over this country. Springy, cold, wet, and unproductive, and yet containing some of the best soil upon the farm. I have often seen much labor expended in hauling stones away from the very borders of these wet spots, which would have served an admirable purpose to drain them, if buried in ditches with only half the labor required to carry them away. I have seen land well drained for years where stones were not to be had, by burying three poles in the bottom of the ditch. Brush is frequently used for the same purpose. Almost half the land now in cultivation in this country would be benefitted more than the cost of the most expensive underdraining.

Irrigation.—And the same land, and much more would be greatly benefitted by irrigation. These several articles upon irrigation ought to be read with attention, and their precepts put into practice.

Poultry.—A Jersey Quaker outwitting a Yankee clock pedlar! Verily Jonathan, thy cunning hath departed from thee, and thy brain hath become like unto an egg that is addled,

and him thou hast often bled till he fainted, (toiling to pay for thy clocks,) doth turn upon thee, and tickling thy fancy with a feather, doth despoil thee of thine idols—the gold thou hast long worshiped. Oh Jonathan! Oh Bosting! You'll give many a poor fellow the *hen fever* to pay for that. I advise everybody to keep clear now of *Ty-mount*.

Sale of Mr. Sheafe's Shorthorn Cattle.—My readers will recollect I stated in the August number, in giving an account of my first visit to High Cliff, that I should attend this sale, although I had no intention of buying. I had a desire to see if this first great sale of high-bred animals in this part of the country, would at all compare with some of a similar kind in England, which had fallen under my notice. To say I was delighted, is but a faint expression of my feelings. The arrangement was excellent, and should be a lesson to all managers of cattle shows, *never to put cattle in pens*. The prices realised for these cattle, may sound high to some of our old-fashioned Connecticut farmers; but if they had been upon the ground, and seen them as they stood at their posts, proud of the admiration bestowed upon them by several hundred intelligent gentlemen present, I have no doubt they would have readily come to the conclusion that they were worth every dollar bid for them. I am satisfied that all went away well pleased with their visit, notwithstanding they were not among the fortunate purchasers; for, as I suggested, they had had the advantage of hearing not only the address of Mr. Allen, but the remarks and criticisms of good breeders upon this herd, and comparisons of various herds, and different breeds in the United States. I was very sorry to learn after I left the ground, that several gentlemen present wished to see me. Nothing would have given me greater pleasure on that day, than to have made myself acquainted with those who felt an interest in knowing who Reviewer really is. I beg they will not be so diffident in introducing themselves hereafter. The "Cup'n's offus" is always open, and no charge is made for "passage." Towards evening, I returned to Poughkeepsie, where I had left my horse and buggy and oldest daughter, who came that far on a visit to the daughters of my old friend P., who, after hearing my, perhaps, somewhat excited account of the show, while seated around the social circle of an American tea table, all regretted exceedingly that they had not gone down with me; and it was then and there unanimously voted, after full discussion by a score of intelligent farmers' wives and daughters, that there could be no impropriety in ladies attending such a place, and freely canvassing the merits of the cattle exposed to sale, as it is well known the English ladies are in the constant habit of doing. I also regretted my daughter was not present, as she is a better judge of the milking quality of cows, than her father; and it would have been such an excellent opportunity for her to contrast the Durhams with our favorite Devons, and also to discuss the matter, and spread the knowledge she might have gained,

among our quiet and somewhat behind-the-age neighbors of the "Valley."

Trenching Old Orchards.—The caption to this little article, conveys an idea to my mind of a different operation from the one described; that is a very good one, and so I believe "trenching" would be. If a ditch were dug between every two rows of trees, deep enough to cut off all the roots at the bottom, and filled with cobble stones, and then with sods, weeds, trash, chips, and soil, it would improve the old trees, and set them to bearing again, although they might have been nearly barren. To my certain knowledge, this treatment of a peach orchard is first rate. In setting out a new orchard, I have no doubt trenching would be the very best plan of preparing the ground.

Value of Coal Ashes for Manure.—I have had some experience in this application, and have no doubt but such ashes are valuable. But careful experiments, rather than analyses, should be entered into to prove the relative value of coal ashes with those from wood, as well as with other fertilisers. This would be an appropriate object for some agricultural society to offer premiums for. But unfortunately for the country, the list of premiums were stereotyped in the days of wooden harrows and Carey plows, and no innovator has yet been found bold enough to break up the old stereotype plates, and prepare a new set.

Plowing and Planting for Orchards.—In addition to all this, ditch and blind drain every wet spot in the ground you intend to plant in orchard, and then get the carts along side of that ancient pile of rotten chips, and discharge the whole cargo upon the ground around the young trees. If this is not sufficient to give a good coating, gather up in the spring, any waste straw, trash, or leaves, and spread them so as to keep the ground moist; and the way your trees will go ahead during the summer will surprise you, and your do-nothing neighbors still more.

Plow for Sugar Planters.—And why not for corn planters? In many parts of the south, corn is planted in drills five feet apart, and it is considered necessary to throw the land into high ridges, on account of elevating it above the influence of flooding rains. Is this plow the very thing wanted for such work? Why not give an engraving with a minute description? What do you mean by "economy worthy the consideration of planters?" Do you suppose they ever read the signification of the word in Webster's Dictionary? "A frugal and judicious use of money—that management which expends money to advantage, and incurs no waste—a prudent management of all the means by which property is saved or accumulated; a judicious application of time, of labor, and the instruments of labor?" Show me one who understands and practises this, and I will show you a customer for your plow.

Superior Native Apples.—It is surprising that so little attention is paid to growing native fruit. We see experiments every day in producing new varieties of potatoes, and why cannot new

varieties of apples and peaches be obtained with equal advantage?

Gathering and Storing Winter Fruit.—Much loss arises from the slovenly manner in which this is done. There is no labor-saving, and certainly no fruit-saving implement, of so little cost, that possesses so much value as the "fruit gatherer," figured in the September number. My plan of storing fruit in the fall, is in linen bags. It will stand a greater degree of cold, inclosed in linen, than in any other situation. Before cold weather sets in permanently, I overhaul and pack away all the sound fruit in barrels or boxes, and thus have it sound all winter.

Hedge Plants of India.—If there are any plants in India, or any other part of creation, that will make *fence*, in mercy let us have them, for as yet, they are as angel's visits to America.

Premiums on Entire Flocks of Sheep.—Glad to see the suggestion; for at present the "old stereotype edition of premiums," has nothing like it. Giving premiums for the "best buck" that may be exhibited, perhaps without a single competitor, is of about as much value to the country as would be a premium for a pig with a cute curl in his tail. Let us have whole flocks and herds in competition.

Value of Roadside Products.—Did you intend this as a severe rebuke upon the unprofitable manner in which the fields are cultivated? Or did you intend to make a strong show of the folly we are all guilty of in the enormous waste of land along the roadsides, given up to the spontaneous growth of elderberry and dandelion blossoms, blackberry and whortleberry bushes, and briars? Oh, my countrymen! When will you learn how much you tax yourselves, to fence these same "profitable roadsides," for the benefit of some piratical pig or prowling cow, or the accommodation of the "outside barbarians" of our city suburbs, who claim a pre-emption right to everything that grows "by the roadside," including all your loose rails and stakes, besides some that are not loose?

Storing Winter Cabbages.—All right but the straw, and that is all wrong. Do not use a bit of it, unless you have a particular desire to establish a winter nursery for young mice. Wrap the loose leaves around the head, and set it on the ground, and haul the loose earth around it, so it will not touch its next near neighbor, and thus you will show that you are no cabbage head yourself.

English vs. American Girls.—Why, you incorrigible bachelor. Would you recommend our delicate damsels, and gossummer girls, to "ride, drive, walk, row, run, dance, play, sing, jump the rope, throw the ball, pitch the quoit, draw the bow, and play the shuttlecock," and thus give their cheeks a natural roseate hue, instead of an artificial one, which is obtained with so much less labor? It must not be. 'Twill spoil trade in drugs and paints, and paper shoes, and drive physicians to physical labor. What! prefer English beauty to ours. Like begets like. If there are no wax doll-mothers, where shall we get wax-doll children? 'Twill spoil the breed.

REVIEWER.

EXTENSION OF THE SUGAR REGION OF LOUISIANA.

THE district capable of producing the sugar cane, or what was at first believed to be only capable of producing it, has been greatly extended since the commencement of cane culture in Louisiana. Then, it was thought the rich banks of the lower part of the Mississippi, where frost was but seldom seen even in mid winter, could only be cultivated for sugar. But it gradually worked its way up to the neighborhood of Baton Rouge, and over the Attakapas region, and along the banks of Red River.

While the culture was thus slowly marching northward, those at the south cried out "preposterous," and those still above the sugar limit, exclaimed, wonderful! and in some instances they abandoned their cotton plantations upon the hills, and came down to meet the more profitable culture of cane upon the river. Who then would have dared talk of making sugar upon the red hills of an old cotton plantation, in East Feliciana? Who dares now say that any more profitable sugar lands are cultivated in the state? Baton Rouge, instead of being far above all the sugar plantations, is becoming a central point. The march of the cane has passed her many miles, and leaving the overflowing banks of the uncontrollable Mississippi, has taken position far back among the hills, where, although the growth of cane is not so large, the yield of sugar is as good as on the coast; and, as the cane is better matured, the juice is boiled with less fuel, which is cheaper and more easy to obtain. Such has been the success of the last two years, that many new mills are being erected, and vast quantities of land brought into cultivation in places where it would have been thought madness to talk of making sugar ten years ago.

Who shall set limits to the productiveness of the earth, or what man shall say to his fellow, "Thus far canst thou go, and no farther?" Who knows but the discovery of Melsens shall be improved—that the bi-sulphite of lime shall be converted into steam, and whole crops of cane prepared by that process so it cannot undergo fermentation, and may be ground at leisure? There will be no fear of frost, then, and sugar may be made as high up as Vicksburg, perhaps. Who knows?

—♦—♦—♦—
PORTABLE STEAM ENGINE FOR FARM PURPOSES.—This engine is a beautiful piece of mechanism of half-horse power, working to a charm. It was operated in the hall, and attracted great attention. It propelled a grindstone, lathe, straw cutter, &c., working with ease at from 500 to 800 revolutions per minute. With it, a farmer might saw his wood, cut his straw and hay, grind his tools, steam his potatoes and other feed with the surplus steam, and while thus operating, save the labor and board of two or three men. It is well worthy of careful attention, and if durable, of general encouragement. It requires from 1 to 1½ cents' worth of fuel per hour, to propel it, and costs only \$75.—*Trans. N. Y. Ag. Soc.*

THE HEN FEVER.

It is surprising to witness the working of this fashionable, we had nearly written *foolish* fever. The yellow fever and cholera may be more fatal; the "grippe," or broken-bone fever, harder to bear, but the "hen fever" is making the most fools, and engulfing the most money, particularly in New England; and we judge from numerous letters lately received from our friends at the south, that they are getting a touch of it even there. Our orders for Shanghaes Chittagongs, Cochin-Chinas, Plymouth Rocks, and half a dozen other puffed-up, worthless breeds of fowls, whose strong points of recommendation consist solely of long legs and necks, big heads, bodies meagerly covered with coarse flesh, and as destitute of beauty as the specimen, denoted by the cut below, are numerous, but these will all remain unanswered; for we have no idea of being mixed up with the miserable humbug in the hen trade, which is kept alive by a class of papers that might be better employed. The public look to the agricultural press for truth, instead of deception and twaddle.



ARDEA MINOR.—FIG. 86.

Breeders who live upon the gullibility of the public keep this fever alive, by means of publications, in such papers as will lend themselves to the *henhussys*, and by poultry books, got up on purpose to assist them to sell their great, overgrown, long-legged, crane-necked, big-headed abortions, not one of which is worth half so much to the farmer, as the old stock of Javas, Malays, or their crosses, the Bucks-county and Jersey Blues, which can be bought at a moderate price. We understand, that from \$20 to \$100 a pair is the asking price of these "great poultry breeders," who know no more of the true merits of a fowl, than they do about the

hen roost of the emperor of China, or the duck pond of the Great Mogul.

We are sorry to see respectable agricultural papers, like some we might name in Boston, engaged in such *small* business as puffing these miserable bipeds, (feathered or featherless,) into notice. We can assure them that their columns could be much better occupied than in such humbugging and *foul* foolery. They may be-praise or be-foul such as they please; but after all is said and done, the best and most profitable for the farmer to keep, is the Dorking, or a good common kind, of medium size, like the old-fashioned speckled Dominique, the latter of which can be bought for 50 cents to \$1 per pair. Such fowls can pick up their own living in the farmyard; they want neither cosetting nor stuffing, they can take care of themselves.

FRENCH CONTRACT FOR ENGLISH CAVALRY HORSES.

For the last few weeks a great number of English horses have been exported to France, on account of the French government. There are several agents at present in this country for the purpose of making some very large purchases of chargers for the remounting of the French cavalry regiments, both heavy and light. The contract is for 12,000, at the price of £25 per horse, for the light cavalry, and £28 per horse for the heavy troops—Cuirassiers, Carabiniers, dragoons, artillery.

The above paragraph we cut from one of our English papers. It teaches the farmer the advantage of rearing an improved stock. Here is France with a much larger and more fertile country, and yet she is tributary to her great rival, England, for the well mounting of her cavalry horses. What a disgrace to France this is, and what an honor to England.

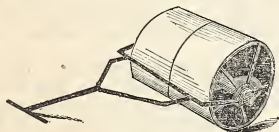
At the famous battle of Waterloo, one regiment of English cavalry was so superior to any in the French lines, that in every charge, they easily rode right over the French horses, completely discomfiting them with scarce the necessity of pulling a trigger or drawing a sword. It was the superior breed of the English horses, alone, that enabled them to accomplish this.

There is nothing superior to a first-rate American horse; and if our farmers will only breed from the best animals, we should soon have such a numerous stock in the country as the world never yet saw, out of Arabia.

ARRACK.—This is a spirituous liquor produced from distillation of palm wine, and also from a fermented infusion of rice. It is a drink much used in the East Indies, among some of the semi-barbarous nations. Opposed as we are to all intoxicating beverages, we cannot recommend its introduction into this country, unless it were upon the same principle we would tolerate wine, cider, and beer, as less likely to produce drunkenness than whiskey. A great fire is sometimes checked by a smaller one.

THE GARDEN ROLLER.

This implement has been lately very largely introduced for horticultural and other uses. It consists of two cast-iron sections, one foot in width, and twenty inches in diameter, with an iron handle. The most complete ones have two large weights suspended from a shaft within the sections, to give them additional weight, and these are so adjusted as to throw the handle up when not under control of the hand, thus always keeping it clean. Though generally used by hand only, a horse can be readily attached to the handle for any heavy work. They are made in two sections to obviate the very bad effect in turning, where the entire roller is solid, by which the earth is scraped up on either side at the same time that it requires much additional power to move it. As now arranged, when turning, one roller is moving back while the other is moving forward. There is a further advantage from having small sections, in the consideration that if one, by any mishap, becomes broken, its place can be supplied by another, without prejudice or loss to any other part of the machine.



GARDEN ROLLER.—FIG. 87.

The field roller is made from sections of the same width, but of larger diameter, and each of double the weight of those in the hand roller. They have the further addition of a large wooden box, to hold any increased weight required, as they are always moved by a team, and are used for roads and fields, where large weights are necessary. But as the latter has been particularly described in fourth volume, p. 139, we omit further notice of it here.

NEW-YORK AGRICULTURAL WAREHOUSE.

The following fair notice of our business is copied from the "Farmer and Mechanic," an excellent family paper, published in New York. Coming as it does from such a source, unsolicited, it is appreciated in the same kind feeling in which it is given:—

Among the many excellent establishments of the kind now in this city, we would invite the attention of our readers to the extensive Agricultural Warehouse and Seed Store of Messrs. A. B. Allen & Co., advertised in another column of our paper. For the last five years, we have watched the growth of this establishment, and, from the intelligence and experience of the proprietors, we feel justified in saying that no other house in the United States, if in Europe, offers so many advantages to the farmer, the planter, or the gardener, for the purchase of articles of husbandry, as the one under notice. An inspection of their extensive factories, lofts, warehouses, &c., connected with this establishment, will be sufficient to convince any one of the

truth of our remarks, particularly on witnessing the unsurpassed variety of implements, seeds, and machines which are exposed for sale. It is thus obvious that the farmer or the planter will have a better opportunity of selecting what he may need in an establishment of this magnitude, than from one less extensive in its character, or limited in its supplies.

AWARDS AT THE LATE STATE FAIR AND SHOW.

THERE will always be more or less dissatisfaction with the awards of committees at the Agricultural Shows; we have, therefore, repeatedly contended, that all such committees should be instructed to report the reasons in full, which governed them in making their awards, and that these should be published, so that the exhibitors may be fully enlightened thereby.

Among those who demur pretty strongly, at certain decisions, at the late show of the New-York State Agricultural Society, is our friend Mr. W. S. King, of Rhode Island, and he has taken the committees on swine and milch kine to task rather humorously about this matter, in two long columns of the Providence Journal. If we had room to spare, we should like to copy the whole article; but as it is, we must content ourselves with a few spicy paragraphs on the subject of milch cows.

"The decision of the committee on milch cows, &c., has, however, excited more surprise than that of any other.

"We have not met with a solitary person among the many good judges of milch kine upon the ground, who had made selection of the cows which took the three premiums as being superior to others.

"It is very desirable that this committee, in their report should give us, who have considerable capital and considerable pride invested in the breeding of stock, the grounds upon which their decision rested; the points in which the premium cows were superior to all others.

"To prove to all that we do not lightly join issue with this committee, we here state the performance of one cow, (and that, unfortunately, *our cow*,) which was not thought worthy of mention.

"The shorthorn cow, *Flora*, the property of the writer, was certified to the committee to have given 1,020 quarts of milk in 60 days, and to have averaged sixteen quarts per day for the next thirty days, and to have given nine quarts on the morning of the show, (she gave eight in the evening,) this in her fourth month, and the beast only four years old. A passing injury to one of her teats considerably diminished her yield during the trial. This is equal to over twenty quarts per day, for a cow six years old, or more.

"Old farmers will stare when they learn that Rhode Island had three cows on the ground, that beat this yield so far, that not even a passing word of approval was bestowed upon this, (to us,) uncommonly fine animal.

"As to her frame and color, she had every point for beauty, and every mark of a milker.

"We do not here mention the fine cows of Mr.

Halliday, Mr. Anthony, Mr. Eaton, Mr. Hovey, and others, who were mentioned by many on the ground, however, in connection with premiums, but rest the argument on the single animal specified, to whose performance, as above stated, we had two credible witnesses on the field; for, in our simplicity, we thought the yield, for so young an animal, somewhat marvelous.

"Now we do, in all sincerity and respect, request of this committee a little explanation in their report. There is some error, or misunderstanding, somewhere. We claim to know something about cows, if it be but little; and we cannot easily believe that three cows in the state can exceed this yield, allowance being made for age. If there are those, we would walk some distance, over some stony roads, to see them, and drink to their owner's and the cow's long life, some molasses and water, tepid.

"We will venture to propose to the owners of the three premium cows, to show this animal against any of those three cows, before three judges to be elected by the parties, for a silver pitcher worth \$50 to be made by Gorham & Thurber, whose display of silver ware, at the show, reflected so much credit upon the state.

"And finally, we beg the committee alluded to herein, to believe that these strictures upon their decisions are made with a view solely to the eliciting of truth and for the general good."

One thousand and twenty quarts in sixty days! And from only a four-year old cow, too! Well, friend King, this is not to be deplored, at least, however much the decision of the committee may be; and you have the intense satisfaction of reflecting that you got plenty of milk for your tea and coffee, although you received no premiums. Now this is some consolation, we opine; and then there is the honor of possessing a good milker; and some satisfaction in letting the public know it; so go ahead again, keep moving, and above all, *improving*, and you may have better luck next time.

SARATOGA-COUNTY AGRICULTURAL FAIR.

Is a tour recently made through some of the northern counties of this state, I attended several of the county agricultural fairs which were so well managed, and evinced so much spirit of emulation, as well to deserve a notice in your journal.

On the 17th and 18th of September, Saratoga-county Fair was held at Mechanicsville. This exhibition proved to be all that had been anticipated. When such men as Whalen, the president, and Cory, the secretary, have an enterprise of this kind, a failure need not be expected.

As to matters of improvement, this society has abolished the free-admittance system. Until the present year, the fairs have been held in such places as best suited the notions or convenience of the majority. Consequently, they were dependent upon the receipts of membership, and individual donations for sufficient funds to entitle them to the state appropriation.

They have now an enclosure of about four acres, secured by a tight board fence, through which no one can pass except by the gate, and not then, without first paying a shilling.

Visitors to the enclosure were amply remunerated by rambling up and down the well-laid-out grounds, reclining among a profusion of fruits, flowers, &c. In the middle of the ground, they have a permanent two-story building. The centre of the pit was devoted to the exhibition of flowers, which, let me say to the ladies of Saratoga, exceeded anything of the kind that I have ever met with. The designs were noble, reminding the beholder that none but that fairest of all flowers, (woman,) could contrive and complete, of such materials, such splendid temples, birds of Paradise, and more to be admired than anything else, a weeping willow formed of vines and bedecked with nearly 50 varieties of dahlias, and over 160 varieties of flowers of nearly as many colors and sizes. Thus it will be seen that my path has been strewn with flowers. On each side of this department were manufactured articles in great varieties.

The second story was devoted to the exhibition of quilts, counterpanes, and other specimens of needle work, each of which was well represented.

The exhibition of stock was very fair. Durhams, Devons, a cross of both, and some fine native breeds. It is said the best horses exhibited were the Black-Hawk stock, though there were some beautiful breeds of other pedigrees.

The department for farmers' implements was not so full at this, as at some other fairs, of which I shall say something hereafter; yet, sufficiently so to show that Saratoga county will soon be a powerful competitor for her neighbors that are much older in matters of this kind. A railway washing machine, exhibited by Mr. M. P. Coons, attracted much attention. It is said a child ten years old can do the washing of a small family, with the machine; if so, it is what has long been needed, a "helpmeet" for woman. Mr. J. H. Hedley, exhibited a patent bee hive of very curious construction. The only idea I can give you of it, is, a bee hive filled with bee hives. This hive is said to be the best one yet invented. Mr. Hedley also exhibited some specimens of honey made in common glass tumblers, placed in the hives.

This fair, taken all in all, indicated progression. The receipts show an increase of more than 800 per cent.

A. SHERMAN.

TO MEASURE HAY IN STACKS.—"More than twenty years since," says an old farmer, "I copied the following method of measuring hay, from some publication, and having verified its accuracy, I have both bought and sold by it, and believe it may be useful to many farmers, where the means of weighing are not at hand. Multiply the length, breadth, and height into each other, and if the hay is somewhat settled, ten solid yards will make a ton. Clover will take from ten to twelve yards per ton."

Ladies' Department.

COMFORT AND COOKERY.

WE have often asked why simple cookery is not made part of the education of the girls brought up in the various schools. We know how easily soldiers and sailors learn cookery, when obliged to take their turn at cooking; and the girls in the schools might be employed in turn in the kitchen of their parents, masters, and mistresses, or their patrons and patronesses.

The services that might be rendered to this class of society, in respect to comfort, temper, health, and economy, by a more general and competent skill in cookery, is hardly to be estimated. Little have the rich an idea of the vexation, the ill-humor, the bad digestion, and waste, that come of those cooks proverbially sent upon this earth by the enemy of mankind, as an offset to heaven's bounty in furnishing good food. What is commonly self-called a plain cook, (plain in the sense in which the term is applied to a woman,) is a cook who spoils food for low wages. She is a cook, not because she knows anything about cookery, but because she prefers the kitchen fire to scrubbing floors, polishing grates, or making beds. A cook who can boil a potato and dress a mutton chop is one in a thousand.

If we could see by the help of an Asmodeus what is going on at the dinner hour of the humbler of the middle class, what a spectacle of discomfort, ill-temper, and consequent ill-conduct it would be! The man quarrels with his wife because there is nothing he can eat, and he often makes up in drink for the deficiencies in the article of food. Liquor is the consolation to the spirits, and the resource to the balked appetite. There is thus not only the direct waste of food and detriment to health, but the further consequent waste of the use of spirits, with its injury to the habits and the health. On the other hand, people who eat well, and drink moderately, have the satisfaction of appetitewith relish, dispensing with the use of stimulants. Good humor, too, and good health follow a good meal; and by a good meal, we mean anything, however simple, well dressed in its way. A rich man may live very expensively and very ill, and a poor one very frugally but very well, if it be his good fortune to have a good cook in his wife or servant; and a ministering angel a good cook is, either in one capacity or the other, not only to those in humble circumstances, but to many above them of the class served by what are self-termed professed cooks, which is too frequently an affair of profession purely, and who are to be distinguished from the plain cooks only in this, that they require much larger wages for spoiling food, and still much more in quantity, and many other articles to boot.

Great, we repeat, would be the benefit both to the subjects of the instruction, and to the public generally, of making cookery a branch of female education; and amongst the prizes

which the bountiful of both sexes are fond of bestowing in the country, we should like to see some offered for the best boiled potato, the best grilled mutton chop, and the best seasoned hotch-potch soup, or broth. In writing of a well-boiled potato, we are aware that we shall incur the contempt of many, for attracting importance to a thing they suppose to be so common; but the fact is, that their contempt arises, as is often the origin of contempt, for their ignorance, there not being one person in ten thousand who has ever seen or tasted the great rarity—a well-boiled potato.—*Condensed from the London Examiner.*

ANOTTA DYE.—This beautiful summer color is one of the readiest known to the good housewife; but as there are some who have to make it, we will give them the simple direction. First, be careful to procure the article pure, as it is one very subject to adulteration. Cut it into small pieces and boil it in soft water with an equal weight of pearlash, in a copper boiler, say one pound to four gallons of water. Rinse the articles to be dyed, in clean water, and then dip them in the dye and air them, and then let them boil some time; take out and rinse. The quantity of anotta used must be regulated entirely by the depth of color required. A little experience will soon teach that.

ELDER-BUD PICKLE.—The clusters of elder buds just before they expand into blossom, make an excellent pickle of a peculiar, and rather pleasant flavor. Another pickle, much liked by some epicures, is made of the young elder shoots in spring. To prepare them, peel off the outer skin and soak the stalks twelve hours, in weak brine, and then boil them a few seconds in vinegar. Take them out and pack them close in a jar with pepper, ginger, mace, pimento, and pour the vinegar boiling hot over, to fill the jar, and keep hot for a couple of hours; then set away to cool and tie up for use.

MAKING BRINE.—FOR THE USE OF YOUNG HOUSE-KEEPERS.—Dissolve four pounds of good salt in each gallon of water. Add a few handfuls of small lumps of rock or other coarse salt to each cwt. of meat, as you pack it, before putting on the brine. This will maintain its strength. If the pieces of meat are small and lean, they will absorb salt enough to be palatable, in three days. You may then take it out, and if the weather is cool, keep it hung in a dry room, or pack it dry in coarse salt.

JERKED BEEF.—This is the name given to a plan of preserving meat, much in use in South America, and often practised in the frontier settlements of the United States and Canada, where salt is costly and scarce. All the lean parts of the carcass of beef or venison are cut into fine shreds, and thoroughly dried in the sun; or if the weather proves bad, sometimes by the fire and smoke. When well prepared, they will keep sweet for years.

Foreign Agricultural News.

By the steamer *America*, we are in receipt of our foreign journals to the 5th of October.

MARKETS.—*Cotton* has been continually advancing since our last. *Flour* is 6d. per barrel less. *Grain*, a slight decline. *Tallow*, an advance. *Naval Stores*, *Rice*, and *Tobacco*, improving.

Extraordinary Fowl.—Mr. Moorman, of the Ship Tavern, Bristol, has in his possession an extraordinary barndoor fowl, which has laid some enormous eggs, measuring eight inches in length, and six inches and a half in circumference, and weighed four ounces each. The fowl is not larger than the common size. Her extraordinary achievements have excited a good deal of curiosity in the neighborhood.—*Sunday Times*.

Potatoes from Cuttings.—Our potatoes from cuttings are still growing vigorously, while those planted in the usual way are diseased. Although no chemist, it is my opinion that a proper quantity of starch is wanting to bring the potato to maturity. From 7 lbs. of potatoes, the produce of whole sets, planted in the usual way, on the sixth of April, I had 1 lb. 3½ oz. of starch. From the same sort raised from cuttings, put in on the fourth of May, the produce was 1 lb. 13½ oz. showing a difference of 9½ oz. I observed, when taking the first water from the pulp, that the one from the former was a very much darker brown than that from the latter, which was a muddy white. I have taken up my white-blossomed kidneys, the produce of tubers from cuttings of 1849. They are all sound; I have obtained 30 bushels off six rods.—*Gardeners' Chronicle*.

The Great Industrial Exhibition of 1851.—The London papers contain an engraving of the building now erecting for this, the World's Great Show. It is to be composed, principally, of glass and iron, and will be 1848 feet long, and 408 feet broad, covering 18 acres of ground. The roof will be supported by 3,230 hollow cast-iron pillars, from 14 to 20 feet long, each of which is a water conductor from the peculiar-shaped roof, which is composed of a succession of low ridges of glazed sash, which conduct the falling water into numerous wooden gutters, which discharge through the supporting pillars. The centre of the immense structure is crossed by a transept 108 feet high, enclosing a row of large elm trees that stand in the way, but are too large to be removed, and must not be destroyed. The glass used will weigh 400 tons, and covers 900,000 superficial feet. The roof and south side will be covered with canvass to break the glare of the sun, which would otherwise be intolerable, even in smoky London. Besides the ground, walls, and roof, to exhibit articles upon, there will be a gallery 24 feet wide, nearly a mile in length, which can be increased if necessary. The cost of the building completed, is about \$750,000. The cubic contents of this largest room ever built in the world, will be 33,000,000 feet. It is to be amply ventilated, but what provision is made for warming it, does not appear. The space allotted for exhibition of articles from the United States is 85,000 superficial feet, which, large as it appears, will be found too small. Any information required by those desirous of becoming exhibitors, can be obtained from the Central Committee, at Washington.

Draining of the Lake of Haarlem.—Dr. J. V. C. Smith, editor of the Boston Medical Journal, who is now in Europe, in his editorial correspondence, written from Holland, mentions his visit to the Lake of Haarlem, which is now being drained by raising the water by steam engines into a canal, dug to carry it off to the sea.

Six miles from Amsterdam is the inland Lake of Haarlem, 21 miles long by 11 in width, which, three hundred years ago, was found to be perceptibly increasing, by shooting its waters further and further, and covering up the land, threatening the first commercial port of the realm with destruction by flowing in upon its back. Various schemes, at that remote epoch, were devised by able counsellors, to stay the threatening danger. Three Dutch engineers, of acknowledged ability, proposed draining off the water, first raising it by windmills. They are entitled to remembrance from having suggested the very plan adopted by the government, in 1849, for inverting an impending calamity. Seven years since, delay being no longer safe, a canal was dug around the whole circumference of the lake, averaging 200 feet in width, by 10 feet deep.

Three monster steam engines are housed on the side of the lake, some six or eight miles apart, each moving eight monstrous pumps. All the pistons are raised at once, at every revolution of the machinery, elevating 15,000 gallons of water, which is emptied into the canal, whence it is hastened by a fourth engine, faster than it would otherwise move, to the Zuyder Zee, and thus it reaches the sea, 15 miles distant. In April, 1849, the pumps, worked by three of the mightiest steam engines, perhaps, ever constructed, were set in motion; and up to this date, July 25th, 1850, have lowered the contents of the lake seven feet. By next April, it is anticipated that the bottom will be fairly exposed, and all the water conveyed away from its ancient basin.

Electricity Applied to a Mare in Foal.—The following is from the "Cambrian" newspaper:—On Saturday morning, week, a mare in foal, belonging to William Chambers, jun., Esq., was electrified at the South-Wales Pottery, Llanelly. Not being able to put the animal into the room where the machine was placed for operating upon her, she was stationed outside, near the doorway, and was brought into contact with the instrument by means of long, and remarkably slight brass chains. The chains being fastened round the fetlocks of the fore legs, the first shock was given, but so slightly as not to be strong enough to kill a mouse, but it started the mare so that she fell completely back on her launches, at the same time snapping the small chains in pieces. After raising her, and bringing her to the door again, the position of the chains was altered, by being placed so that the shock might pass diagonally through her, and the second shock succeeded much better than the first. It was quite evident that the first had frightened her, for when the charges of the Leyden jar were tried, previous to giving the second shock, she started at the sounds of them. A few weeks ago she had a seton placed on the back bone, near the hind quarters, while all the affection, (ossification at the back of the neck,) lay in the neck, and close upon the base of the skull. This was caused by a kick on the spot where the seton was placed. The poor animal is now much better since she was electrified, as we saw her on Monday, running after a fine colt, a feat she could not have performed on Friday evening; for, till that time, she could not, by herself, get up, if once she dropped. The result has been so far favorable, that we believe it is proposed by the enterprising owner to put her under the same operation a few times more, although some, in attendance on Saturday week, fancied more evil than good might arise from the first operation.

Potato Culture in Ireland.—By the late report on the potato crop of Ireland, it appears that the average for the whole of that island gives an increase of potato cultivation, the present year, of 109 per cent., or upwards of double, as compared with 1849.

Editors' Table.

TO CORRESPONDENTS.—Whoever writes us a good article, of a page or more in length, shall be entitled to the *Agriculturist* one year, gratis. All articles required to be inserted in a particular number, should be sent one month in advance.

THE FAMILY EXPENDITURE DIARY; Designed for the use of Families and Individuals in keeping correct account of Expenditures. By Rufus Merrill. This is a useful little book, of a convenient form, suitable for families and others, who have not business enough for keeping a regular set of books. It may be had at Van Nostrand & Terrett's, 120 Fulton street, N. Y., at 31 cts.

THE AMERICAN AGRICULTURIST AND NEW-YORK AGRICULTURAL WAREHOUSE TRAVELLING AGENT.—Mr. A. Sherman, who has been sometime engaged for us, will soon leave on a tour through the states of Delaware, Maryland, Virginia, and North Carolina, gathering information to increase the value of our paper, and extending its circulation. He will also take orders for implements from our warehouse.

GRAND EXHIBITION OF POULTRY.—The New-England Society for the Improvement of Poultry give notice that their grand annual exhibition will take place at the Public Gardens, in Boston, on Tuesday, the 12th day of the present month, where every facility will be rendered to accommodate the public to any extent that may be required.

SALE OF MR. STICKNEY'S STOCK.—This sale took place as advertised in our last number, at Westminster, Vermont, and was well attended. Thorough-bred Devons sold for \$125 to \$160. Grade Devons, on an average at \$50 each. The Suffolk swine sold from \$10 to \$80 per head, according to age. The Southdown sheep having been much neglected, sold comparatively low. The whole amount of the stock sales was \$5,176. The Devons brought much higher prices than was ever before obtained at a public sale in this country, for this breed of cattle. Improved stock of all kinds have risen, at least, 50 per cent. within a year.

SALE OF SHEEP.—We invite particular attention to the sheep advertised at page 359 of this number of our paper. Col. Sherwood has taken great pains in breeding them, and the public may rely upon their being fully equal to what they are represented. They will be sold without reserve, as advertised.

CATTLE SHOW AND FAIR OF THE AMERICAN INSTITUTE.—We have been obliged to go to press before the close of the fair, and shall give particulars in our next number. The cattle show, in some respects, was better than any we have yet seen here. Mr. Stevens' imported Devon cattle and Southdown sheep were justly admired, and far superior to anything of the kind we have yet seen imported, with the exception of a few sheep by Mr. Rotch. The show of Durhams was respectable, of Alderneys and Ayrshires, pretty good. The grade Durham milch cows were numerous, and of a superior order. Mr. Col's singular-looking Hungarian cattle were present and attracted much attention. Horses, though not numerous, were good. Sheep and swine, a fair representation of each. There were several superior Spanish Jacks, and some mules. Mr. Moore was there with his great Shanghae fowls, both black and buff, and the grey, speckled Chittagongs. Other fowls were good of their kind.

D. BOW'S REVIEW.—The October number of this popular and very valuable magazine was laid upon our table by the editor himself, a few days since, upon the occasion of an editorial call, we had the pleasure of receiving from him in our sanctum. To those of

our readers, if there are any such, who are unacquainted with the above work, we will say that it is truly what its title indicates; a "Southern and Western Industrial and Literary Journal of Commerce, Agriculture, Manufactures, Internal Improvements, and Statistics, &c." It is edited with marked ability, published at New Orleans, in a large octavo pamphlet, monthly, at \$5 per annum. It is extensively patronized in all the southern states, and should be much more so. It is indispensable to all who are desirous of keeping pace with commercial information, particularly of the greatest mart of agricultural productions in the world.

LARGE YIELD OF PUMPKINS.—Mr. Dennis Brewer, of Monterey, Mass., grew the following pumpkins from one seed. The respective weights were as follows:—

The first weighed 40½ pounds; the second, 40½; the third, 34½; the fourth, 29; the fifth, 17; the sixth, 29½; the seventh, 25½; the eighth, 21½; the ninth, 18½; and the tenth, 7 pounds, making a total of 263 pounds!

NOTICE OF FAIRS.—The Fair at Mt. Holly, and the Fair at Tarrytown will be duly noticed in the next number. The articles could not be inserted this month for want of room.

Fair of the American Institute will also be noticed in the December number.

PLASTER FOR POTATOES.—The Newburyport Herald states that a West-Newbury farmer planted this season, eight acres of potatoes, manuring six of them with plaster, or gypsum, in the hill, and omitting it on two acres. The six acres have turned out all sound potatoes, while the other two have been entirely destroyed by the rot.

THE EGG TRADE.—It is stated by a person engaged in the egg business, that 200,000 dozen of eggs have been sent from Hallowell, Maine, to Boston, in the steamer Ocean, the present season.

LARGE CATTLE.—Col. Byron J. Bassel, of Harrison county, Virginia, has purchased three pair of oxen the gross weight of which are as follows:—

One pair, 4 years old, weighed 4,000 lbs.

One pair, 6 years old, weighed 5,000 lbs.

One pair, 6 years old, weighed 5,500 lbs.

These cattle were raised by Mr. Abia Minor, of Harrison county. Col. Bassel will immediately commence grain feeding them, and in the fall, have them fattened for the eastern market.—*Exchange.*

THE LARGEST GRAPE VINE IN THE UNITED STATES.—Under this heading, the Natchez Free Trader, of the 10th instant, has the following paragraph:—

Mr. William Casey, corner of Union and State streets, in the city of Natchez, can boast of a grape vine which is, undoubtedly, the monarch vine of the United States. It rises from the ground in a single trunk of some three inches in diameter, nearly straight, and well proportioned, to the height of about nine feet, when it spreads into branches, and covers and embowers the trellis work of quite a large garden, besides climbing a tall tree. The weight of the immense clusters of grapes hanging upon it, now about half grown, is estimated at a ton. To stretch out any one of the branches in a direct line, they would measure from 300 to 400 feet. The grape is not natural to the country, but was brought to Natchez in the old Spanish times. It is called the "Jack Grape," from Spanish Jack, the nickname of the Spaniard who planted it. Some years ago, Madame Bingham, now dead, offered Mr. Casey \$500 if he would remove the vine safely to her garden, in the environs of the city; but no sum of money whatever, would induce the owner to part with it. It produces a wine which has the taste of Hock.

Review of the Market.

PRICES CURRENT IN NEW YORK, OCTOBER 16, 1850.

ASHES, Pot.....	100 lbs.	\$6.12	@	\$6.19
Pearl.....	do.	6.00	"	6.12
BALE ROPE.....	lb.	9	"	11
BARKE, Quercitron.....	ton.	38.00	"	41.00
BEANS, White.....	bushel.	75	"	1.35
BEE-SWAX, American, Yellow.....	lb.	20	"	26
BOLT ROPE.....	"	10	"	11
BONES, Ground.....	bushel.	45	"	55
BRISTLES, American.....	lb.	25	"	65
BUTTER, Table.....	"	15	"	25
Shipping.....	"	9	"	15
CANDLES, Mould, Tallow.....	"	10	"	13
Sperm.....	"	25	"	50
Stearine.....	"	25	"	30
CHEESE.....	"	5	"	10
COAL, Anthracite.....	2,000 lbs.	6.00	"	6.50
CORDAGE, American.....	lb.	11	"	13
COTTON.....	"	12	"	16
COTTON BAGGING, Am. hemp.....	yard.	15	"	16
FEATHERS.....	"	27	"	35
FLAX, American.....	"	8	"	9
FLOUR, Sour.....	bbl.	3.62	"	3.88
Ordinary.....	"	4.25	"	5.00
Fancy.....	"	5.25	"	6.75
Backwheat.....	"	—	"	—
Rye.....	"	3.00	"	3.25
GRAIN—Wheat, Western.....	bushel.	1.00	"	1.20
" Red and Mixed.....	"	80	"	1.00
Rye.....	"	70	"	71
Corn, Northern.....	"	63	"	67
" Southern.....	"	59	"	63
Barley.....	"	75	"	80
Oats.....	"	30	"	45
GUANO, Peruvian.....	2,000 lbs.	—	"	60.00
Patagonian.....	do.	—	"	40.00
HAY, in Bales.....	100 lbs.	45	"	56
HEMP, Russia, Clean.....	ton.	200.00	"	205.00
American, Water-rotted.....	"	160.00	"	200.00
" Dew-rotted.....	"	140.00	"	175.00
HIDES, Southern, Dry.....	lb.	9	"	10½
HOPS.....	lb.	10	"	30
HORNS.....	100	2.00	"	10.00
LEAD, Pipes for Pumps, &c.....	100 lbs.	4.38	"	4.75
LARD.....	lb.	7	"	7½
MEAL, Corn.....	bbl.	3.00	"	3.37
MOLASSES, New-Orleans.....	gallon.	23	"	31
MUSTARD, American.....	lb.	7	"	10
NAVAL STORES—Tar.....	bbl.	2.00	"	2.38
Pitch.....	"	1.25	"	1.75
Rosin.....	"	1.25	"	1.35
Turpentine.....	"	2.44	"	2.75
Spirits of Turpentine.....	gallon.	30	"	33
OIL, Linseed, American.....	"	73	"	77
Castor.....	"	1.50	"	1.65
Carb.....	"	60	"	70
OIL CAKE.....	100 lbs.	1.25	"	1.50
PEAS, Field.....	bushel.	75	"	1.25
Black-eyed.....	"	2.00	"	2.25
PLASTER OF PARIS.....	ton.	2.00	"	2.75
Ground, in Barrels of 300 lbs.....	"	1.12	"	1.25
PROVISIONS—Beef, Mess.....	bbl.	7.00	"	10.00
" Prime.....	"	4.50	"	6.00
" Smoked.....	lb.	6	"	12
" Rounds, in Pickle.....	"	4	"	6
Pork, Mess.....	bbl.	10.00	"	12.00
" Prime.....	"	6.50	"	9.00
Bacon, Sides, Smoked.....	"	3	"	4½
" in Pickle.....	"	3	"	4
Hams, Smoked.....	"	5	"	9
" Pickled.....	"	4	"	7
Shoulders, Smoked.....	"	3	"	5
" Pickled.....	"	3	"	6
RICE.....	100 lbs.	3.25	"	3.75
SALT.....	sack.	1.25	"	1.60
" Common.....	bushel.	20	"	35
SEEDS—Clover.....	lb.	6½	"	9
Timothy.....	bushel.	2.00	"	3.50
Flax, Clean.....	lb.	1	"	1.65
SODA, Ash, (60 per cent. soda.).....	"	3	"	—
Sulphate Soda, Ground.....	"	1	"	—
SUGAR, New-Orleans.....	"	5	"	7
SUMACH, American.....	ton.	35.00	"	37.00
TALLOW.....	lb.	7	"	8
TOBACCO.....	"	4	"	13
Eastern, Seed-leaf.....	"	15	"	20
Florida Wrappers.....	"	15	"	60
WHISKY, American.....	gallon.	25	"	27
WOOLS, Saxony.....	lb.	40	"	60
Merino.....	"	35	"	40
Good Merino.....	"	30	"	35
Common.....	"	28	"	32

NEW-YORK CATTLE MARKET.

At Market 1,800 beef cattle, (900 Southern, the remainder from this State,) 50 Cows and Calves, and 6,000 Sheep and Lambs.

Beef.—The demand since our last has been limited. Sales of best retailing qualities at from \$5 to \$7.50,—the trade closing very dull. About 300 head would remain over undisposed of.

Cows and Calves.—Sales at from \$22.50 to \$45, as in quality. All taken.

Sheep and Lambs.—Sales of Sheep at from \$1.50 to \$3.50. Lambs, \$1.50 a \$3.75. Left over, 150.

REMARKS.—Cotton and Tobacco have advanced since our last. Very little alteration in other articles.

Potatoes have risen considerably in price in those parts of the country, and have consequently advanced in price in those localities. Where the rot is unknown they are cheap and abundant.

The Weather continues delightful—indeed we never knew a finer Autumn. No frost yet in this quarter to do injury. Corn is well ripened and a large crop. All roots except potatoes are good crops. Tobacco is much injured particularly in Virginia. The season for picking cotton and making sugar is highly favorable; nevertheless the cotton crop will be decidedly short.

To CORRESPONDENTS.—Communications have been received from L. Durand, A Subscriber, and David Tomlinson.

ACKNOWLEDGEMENTS.—Minority Report on the Reduction of Letter, Periodical and Pamphlet Postage; List of Premiums awarded at the late Annual Fair of Columbia-County Agricultural Society; List of Prizes awarded at the Toronto (C. W.) Industrial Exhibition in September last; Premium List of the Queens-County Agricultural Society for 1850; Report of the Secretary of State in answer to a Resolution of the U. S. Senate, respecting the Trade of Guano; Memorial of the Iron Manufacturers of New England, asking a Modification of the Tariff of 1846.

VALUABLE FARM FOR SALE.—Will be sold by the subscribers at Public Vendue on Friday the 20th day of December next, at one o'clock P. M. on the premises, the valuable farm lately owned by Caleb Smith Green, deceased, situate in Lawrence Township, Mercer County, New Jersey, on the Old York Road, seven miles from Trenton, four from Princeton and near the Lawrenceville Church, English and Classical Schools and Female Seminary. The farm is well watered and contains 193 acres of land, about 30 of which are Wood, the residue meadow and arable land in a high state of cultivation. Upon the premises is a stone Dwelling House containing 4 rooms on a floor, and two tenant houses for workmen, large and convenient barns for storing hay and grain, corn cribs, carriage house, wood house, tool house, and other out-buildings, all in good repair, 2 Apple orchards, Pear orchard and other fruit trees. Lime and Manure can be unloaded, and grain and produce shipped on the Delaware and Raritan Canal within 2 miles of the farm.

Persons desiring to view the premises can do so by calling at the dwelling house on the farm. For further information apply to Caleb S. Green, in the city of Trenton.

HENRY W. GREEN, } Ex'trs.
CALEB S. GREEN. } nrt

SELLING OFF TO CLOSE THE BUSINESS. Linnean Botanic Garden and Nursery, late of William Prince, deceased. Flushing, Long Island, Near New York. WINTER & CO., Proprietors.

The proprietors have still remaining, a very considerable stock and variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., which they will dispose of for cash, at a reduction of 25 to 50 per cent. and upwards, from the usual prices, according to kind and quantity. Descriptive Catalogues, gratis, on application, post paid.

Apple trees, two to four years old, from \$6 to \$10 per 100. Pear trees, two to four years old, \$25 to \$50 per 100. Cherry trees, two years old, \$12.50 per 100. Orange Quinces, three and a half to five feet, \$12.50 per 100. Black Hamburg and other Foreign Grape Vines, extra strong plants, \$5 per doz. Two-year old seedling Plum Stocks, \$7 per 1,000.

WINTER & CO.

NEW-ORLEANS AGRICULTURAL Warehouse, comprising a large assortment of Plows, Harrows, Cultivators, Fanning Mills, Corn Shellers, Corn and Cob Crushers, Straw Cutters, Ox Shovels, Ox Yokes, Grain Threshers, Corn Mills, Axes, Hoes, Shovels, and other Agricultural Implements. Also, Gardening Tools, Guano, Plaster, Rock Salt, &c. &c. Orders will be executed for every article wanted by Planters.

JOHN GEO. W. SIZER, cor. of Magazine and Poydras sts.

COCHIN-CHINA FOWLS.—For sale, a few pairs of Cochin-China Fowls, from John J. Taylor's importation, from Shanghai. Price \$5 per pair, delivered in New York.

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THE FARMERS' ENCYCLOPEDIA.—By C. W. Johnson. Adapted to the United States, by G. Emerson. Philadelphia, 1850. One large octavo volume, 1,173 pages, with numerous plates, exhibiting Live Stock, Improved Implements, etc., etc. This book, which forms a library in itself, contains the latest discoveries and improvements in agriculture, together with information upon all subjects connected with practical farming and rural life.

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 Manufactured at North-East Centre, Dutchess Co. N. Y., by V. H. & N. HALLOCK, and for sale by them and at the principal Agricultural Warehouses in the State.

This machine is very simple in its construction, and capable of cutting by hand power, two bushels a minute, into cubes from three-fourths to one-and-a-half-inch sizes, which enables cattle and sheep to eat them without difficulty. The first premiums on vegetable cutters have been awarded this machine by the New-York State, and Dutchess and Queens-County Societies for 1850.

State or County rights to manufacturers and sell these machines, can be had on applying as above. nlt

SALE OF MERINO SHEEP.—I will sell at my Farm, on Wednesday the 20th day of November, at 1 o'clock, P. M., at auction, 40 Merino Rams, and 100 Merino Ewes. These Sheep I have bred from Sheep I purchased of J. N. Blakesly, Esq., of Watertown, Conn. A history of his sheep can be found in the American Agriculturist for 1846, at page 241. At my last shearing, I took off 180 fleeces, 100 of them from breeding Ewes, 60 from shearings, and the balance from Rams and Wethers. They averaged 4 3/4 lbs. For the quality of the Wool, I give the copy of a letter from H. G. Ellsworth, Esq., Agent of Woolen Manufacturing Co., in this city, to the Editor of the American Agriculturist.

OFFICE OF THE AMERICAN WOOLEN COMPANY.

Auburn, N. Y., Oct. 8, 1850.

EDITOR AMERICAN AGRICULTURIST, Dear Sir:—Learning that Col. J. M. Sherwood, of this city, has proposed to sell a portion of his Merino Sheep, I take pleasure in recommending them to the attention of such persons as may wish to improve their stock of this kind. I have manufactured, in the Mills of this Company, the wool taken from this flock, during the last three years, and find it grades higher and more even, spins better, and is, on the whole, superior to any lot of Merino wool I have met with.

H. G. ELLSWORTH, Agent.

The Rams will be put up in ten dollars each. The Ewes will be sold in lots of five, and will be put up at five dollars for each Ewe. If these prices are not offered they will remain mine. Terms—Cash at the sale. J. M. SHERWOOD, nlt.

Auburn, N. Y.

A PRACTICAL TREATISE on the Cultivation of the Grape Vine on open walls, with a descriptive account of an improved method of planting and managing the roots of Grape Vines. By Clement Hoare. To which is added an appendix, containing remarks on the culture of the Grape Vine in the United States. Price, Cloth 50 cents. Paper covers 38 cents. Nov. Published by C. M. SAXTON.

PURE WHITE DORKINGS.—For sale, fifteen pair of Pure-White Dorking Fowls, descendants of Dr. Wright's importation. Price, including coops and delivery in New York, \$6 per pair. E. BLANCHARD, nov. 123 Fulton st., N. Y.

A NEW HARDY CLIMBER.—The new and beautiful Climber, *Cestegia pubescens*, recently introduced from China by Mr. Fortune, proves perfectly hardy in New England, having stood in the grounds here the past winter, without the least protection. Trained to a single pillar, say ten feet in height, it is a very striking and beautiful object, from the middle of June to cold weather, during which time it is covered with a profusion of its large double flowers, of a delicate rose color. It is very ornamental, planted in patches, like the verbenas; makes an admirable screen, and is very effective in young plantations, belts, or shrubberies, trailing prettily on the surface, and running up among the lower branches of trees in a very picturesque manner. It is, therefore, particularly suited for ornamenting Cemeteries and Public Gardens. Its culture is very simple, and it thrives in any good garden soil. When required in considerable quantities, it is best to start them under glass in February or March, but the tubers may also be planted in the open ground in May. The subscriber will send to order, by mail or express, October 20th, tubers sufficient for 100 plants at \$5; for 50 plants, \$3; with directions for propagation and culture. Strong plants in pots in April, \$1 per pair.

B. M. WATSON.

Old-Colony Nurseries, Plymouth, Mass., Sept. 1st, 1850. o 2t

LATEST AND BEST collection of Church Music now ready. The Golden Lyre; a new collection of Church Music, adapted to the various metres now in use, together with a great variety of new Anthems, Sentences, and Chants, for choirs, singing classes, musical associations, and social sacred music circles, by W. C. TAYLOR, author of "Taylor's Sacred Minstrel," "Choral Anthems," &c.

"We have explored its contents enough to dare speak well of it. Mr. Taylor is, himself, the author of a good part of the book, and he shows musical feeling, taste, and invention, which make it no presumption in him to appear as a composer. * * * Mr. Taylor's pieces are recommended by their melody woven into all the four parts by their expressiveness, which always varies with the subject, and by their uniformly artistic style. * * *

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"We believe the book to be greatly superior to any that has preceded it, and we think it may claim to be better adapted to, and more suitable for, the use of choirs."—*Saron's Musical Times.*

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SAUSAGE CUTTERS AND STUFFERS.—These will save nine tenths of the labor in cutting sausage, or other mince meat.

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See particular, also, as to the name, number, and street, which should be

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MACHINES for rasping the Mandioca, or Brazilian arrow root; the *Cucuma angustifolia*, or East India arrow root; the *Cycas circinalis*; the *Zamia pumila* of Florida; *Maranta arundinacea*, or common arrow root plant of the West Indies; and the *yuca*, or cassava plant of Cuba; potatoes, &c. &c.; from some or all of which sago, arrow root, tapioca, and starch are made.

ALLEN'S IMPROVED PORTABLE RAILROAD HORSE POWER, THRESHER, AND SEPARATOR.—The advantages of the above horse powers are—1. They occupy but little more space than a horse. 2. They can be moved by the weight of the horse only, by placing the machine at an angle of 10 or 15 degrees. 3. They are easily transported, simply connected, not liable to get out of order, and move with little friction.

The *Overshot Threshers* consist of a small-spiked cylinder with a concave top, and possess these advantages. 1. They have a level table for feeding, thus enabling the tenders to stand erect, and control the motions of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, stones, blocks, &c., drop at the end of the table, and are not carried between the spikes. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator* high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is long, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary threshers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by an increased number in the concave top, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men with a single power, can thresh 100 to 150 bushels of wheat or rye per day; and four men with a double power, twice that quantity. All the above are compact and can be carried where wanted, complete, or they may be readily taken apart and packed for distant transportation by wagon or otherwise.

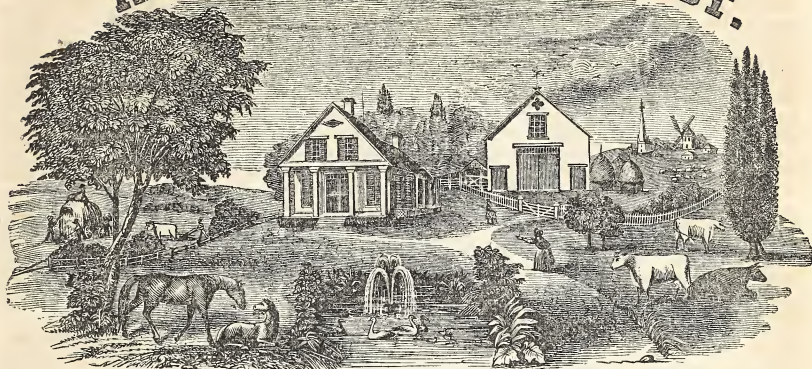
Price of single Power,	\$80
" Thresher,	\$28
" Separator and fixtures,	\$7
" Bands for driving, etc.,	\$5 to \$10
" Wood-sawing machine, complete, and in running order,	\$35
Price of Double Power,	\$100
" with Thresher, Separator &c.,	\$140 to \$150

All the above are sold singly or together, as desired, and are warranted to work well and give satisfaction.

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FRENCH MERINO BUCK.—A very large and superior Merino Buck for sale, bred from the late importation from France by Mr. Taintor of Connecticut. He is two years old, and shears an uncommonly large and fair fleece. Price \$150, of SAMUEL ALLEN, 189 Water St., New York.

AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. IX. NEW YORK, DECEMBER, 1850. NO. XII.

A. B. ALLEN & R. L. ALLEN, *Editors.*

C. M. SAXTON & E. BLANCHARD, *Publishers.*

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TO SUBSCRIBERS.

THIS number completes the ninth volume of the *Agriculturist*. With volume tenth, we shall introduce some improvements, which we hope will render our periodical still more acceptable to its numerous readers.

Thanks to the valuable agricultural papers, which, for the past few years, have been scattered broadcast throughout the land, a decided spirit of improvement is at length aroused. A better system of tillage has been practised the past year, in many parts of the country, than was ever before known; quadruple the number of improved implements have been sold and put in use; improved stock is again in demand; standard works on agriculture are anxiously sought for and read with avidity; agricultural societies are forming in every direction, and those already established have been much better attended than heretofore. We congratulate the farmers of the United States on this great change, and hope most sincerely that it may be progressive; for it cannot but add much, very much, to their worldly interests and general comfort and happiness. Continue to patronise agricultural publications, and add your best efforts to influence others to do the same; take heed to their precepts, and be assured that you will be the great gainers by this enlightened course of conduct. Every person ought to take one or more agricultural papers, and he who does not, depend upon it, will be the main sufferer from his neglect.

☞ The *Agriculturist* will be continued as heretofore, at one dollar per single copy, two dollars for three copies, and five dollars for eight copies, in advance.

☞ Please address all subscriptions to the publishers, Messrs. Saxton & Blanchard, 123 Fulton street, (up-stairs,) New York. Money may be remitted at their risk.

☞ The law permits subscriptions to be sent free through the Postmasters. Please to pay attention to this, as postage is a heavy item in the publication of our paper.

WHAT ARE BIRDS GOOD FOR ?

OUR facetious clerical friend Beecher, in a late article in his very "Independent" paper, furnishes us with one of his unique and excellent horticultural sermons from this text—"What are birds good for?" A question which has been so often answered to the disadvantage of this beautiful portion of God's good gifts to man, that man's children, as a matter of course, have learned to regard the poor birds as fair game, upon which they might exercise their organs of destructiveness, without fear, until the noble state of New Jersey added another feather to her cap full of common sense, by passing a very sensible law for the protection of everything that plumes the wing over her free soil. It is in noticing this law that Mr. Beecher asks: "What's a bird good for? What dainty sentimentalism has set a legislature at such enactments? Not so fast. Although we should greatly respect a legislature that had the humanity to think of birds among other constituent bipeds, yet experience has taught farmers and gardeners the economic value of birds.

"There are no such indefatigable entomologists as birds. Audubon and Wilson never hunted for specimen birds with the perseverance that birds themselves exhibit in their researches. They depasture the air, penetrate every nook and corner of thicket, hedge, and shrubbery; they search the bark, pierce the dead wood, glean the surface of the soil, watch for the spade trench, and follow the furrow after worms and larvæ. A single bird, in one season, destroys millions of insects for its own food, and that of its nest. No computation can be made of the insects which birds devour. We do not think of another scene more inspiring than the plowing season, in this respect. Bluebirds are in the tops of trees practising the scale; crows are cawing as they lazily swing through the air toward their companions in the tops of distant dead and dry trees; robins and blackbirds are wide awake, searching every clod that the plow turns, and some venture almost to the farmer's heels. Even boys relent, and seem touched by the birds' appeal to their confidence, and until small fruits come, spare the birds. Bobolinks begin to appear, the buffoon among birds, and half sing and half fizzle. How our young blood sparkled amid such scenes, we could not tell why; neither why we cried without sorrow or laughed without mirth, but only from a vague sympathy with that which was beautiful and joyous.

"Were there ever such neat scavengers? Were there ever such nimble hunters? Were there ever such adroit butchers? No Grahamite scruples to agitate this seed-loving and bug-loving tribe. They do not show their teeth to prove that they were designed for meat. They eat what they like, wipe their mouths on a limb, return thanks in a song, and wing away to a quiet nook to dose or meditate, snug from the hawk that spheres about far up in the ether. To be sure, birds, like men, have a relish for variety. There are no better pomologists. If we believed in transmigration we should be

sure that our distinguished fruit culturists could be traced home. *Longworth*, was a brown thresher; *Downing*, a lark, sometimes in the dew and sometimes just below the sun; *Thomas* was a plain and sensible robin; junior *Prince*, was a bobolink, irreverently called skunk blackbird; *Ernst*, a dove; *Parsons*, a woodpecker; *Wilder*, a kingbird. We could put our finger, too, upon the human blackbird, wren, bluejay, and small owl—but prudence forbids; as it also does the mention of a certain clerical mocking bird, that makes game of his betters!

"But we wander from the point. We charge every man with positive dishonesty who drives birds from his garden in fruit time. The fruit is theirs as well as yours. They took care of it as much as you did. If they had not eaten egg, worm, and bug, your fruit would have been pierced and ruined. They only come for wages. No honest man will cheat a bird of his spring and summer's work."

We like short sermons, but this is too short. One never tires of listening to such "sound doctrine." The personification of the fruit culturists is capital, as far as it goes. That "certain clerical mocking bird" is more like the wild turkey of the west, full of native dignity and "independence" as that noble bird in the depths of a real American forest—fond of the wild woods, yet capable of domestication, and affording happiness to all who have the pleasure of hearing his gobble.

In connection with this subject, we will give an anecdote related to us last winter by Governor Aikin, of South Carolina, of the rice birds. These little creatures gather around the rice fields at harvest time in countless myriads, and of course consume considerable grain. Some years ago, it was determined to make war upon them, and drive them out of the country, and the measure was in some degree successful, so far as getting rid of the birds. "What are birds good for?" The rice planter soon found out; for with the decrease of birds, the worms increased so rapidly, that, instead of a few scattering grains to feed the birds, the whole crop was demanded to fill the insatiable maw of the army that came to consume every young shoot, as fast as they sprung from the ground. Most undoubtedly the birds were invited back again with a hearty welcome. Rice cannot be cultivated without their assistance.

A few years ago, the blackbirds in the northern part of Indiana were considered a most grievous nuisance to the farmer. Whole fields of oats were sometimes destroyed, and the depredations upon late corn were greater than can be believed, if told. The farmer sowed and the birds reaped. He scolded and they twiterated. Occasionally a charge of shot brought down a score, but made no more impression upon the great sea of birds, than the removal of a single bucket of water from the great salt puddle. A few years later, every green thing on the land seemed destined to destruction by the army worm. Man was powerless—a worm among worms. But his best friends, the hated blackbirds, came to his relief just in time to

save when all seemed lost. No human aid could have helped him. How thankful should man be that God has given him for his companions and fellow laborers in the cultivation of the earth, these lovely birds. "The laborer is worthy of his hire." Why should we begrudge the little moiety claimed by the busy little fellows which followed the plow, and snatched the worm away from the seed, that it might produce grain for his and our sustenance? "No honest man will cheat a bird of his spring and summer's work."

SHORTHORN CATTLE.

I READ your report of the sale of Mr. Sheafe's herd of shorthorn cattle with much interest, and only regret now that I was not present at the sale. But in common with most of my neighbors, I confess that I am too indifferent to stock improvement. However, as our country advances in wealth, I trust fine stock will pay better than it has done heretofore, and the moment that comes, believe me, the farmers will take hold of it, as they are pretty keen to see their own interests. (a) But why should we poor farmers exert ourselves, when wealthy gentlemen settling in the country are so mean in refusing to pay us good prices for raising beautiful, improved stock? (b)

I noticed quite a difference in the price of these cows and calves. Pray, why is this? (c) And how is it that Exeter should bring so very much more than any other animal? We plain farmers don't understand the why and wherefore of these great differences. (d)

One word more and I have done. Do you think that the heifers bred from these cows, will be as good milkers as the cows themselves? (e) If so, farmers might be tempted oftener to buy young stock, and bring them up themselves. In this way, they would not cost near so much. We should be willing to pay \$25 or so for a calf; but \$125 for a cow, is a pretty big heap, (as we say among the stones,) for a hard-working farmer to gather. G. A. D.

Washington, Oct. 7th, 1850.

(a) As to farmers being "pretty keen to see their own interests," with all due respect to our correspondent, we beg leave to say, that we think, in many cases, they are right the reverse; and so far from seeing their interests in a true light, they are as blind in regard to them, as so many bats. If they were not, they would have commenced their stock improvements long ago.

(b) In reference to "wealthy gentlemen," we shall let them answer this question themselves. As a general rule, we can only say that their closeness in regard to the matters complained of, is proverbial; and we do not wonder that the "hard-working farmer" feels so little encouragement in breeding choice cattle, when his rich neighbors are so unwilling to pay him for it.

(c) Fancy, mostly; though some, doubtless, had satisfactory reasons, at least, in their own minds, why they made these differences.

(d) If our correspondent will take the trouble

to read the history of the Princess Tribe of shorthorns, as published in Mr. Sheafe's catalogue, and the Agriculturist, and then see how deep Exeter's pedigree goes, he will understand this subject better. The price, \$500, was reasonable enough for this bull, as any calf of his, dropped from a well-bred cow, will be worth \$100, at a year old, and a very choice one, will fetch \$150 to, perhaps, \$200. Such a bull as Exeter cannot be imported from England short of \$750; he was consequently cheap at \$500, as we opine his purchaser will be able to demonstrate to the public two or three years hence. We have no doubt by that time, the demand for his calves will be greater than the supply.

(e) Yes, we do, provided they are well taken care of. And, as a proof of this, three of them, which have calved this fall, though only two and a half years old, have been giving from 17 to 22 quarts of good milk per day. If this is not keeping up the promise of the cows, we do not know what is. In fact, it is most extraordinary milking for such young heifers, and shows the importance of pedigree and breeding from good animals, *themselves, previously well bred.*

ASHES ARE DEODORISERS.

It is a fact of which few persons are aware, that both wood and coal ashes are disinfectants for animal and vegetable odors, when brought into contact with them. So effectual are they for this purpose, that human feces when buried in them, at once cease to give off any offensive smell. This property renders them of much value for city, or even country privies, where it is an object to use these rich manures.

By throwing a quantity of ashes into a box, to cover the droppings, they are at once rendered inodorous, while they retain most of their enriching properties till the owner chooses to transfer them to his land, when it can be done without any inconvenience from their smell.

In consequence of the presence of so large a quantity of the alkalis in ashes, a portion of the incipients for forming ammonia is driven off, and for this reason charred fuel, as wood coal, or half-burned peat, is better. But in the absence of these, ashes may form an economical, and in most cases, an entirely convenient substitute. The ashes from a small, single grate have been found sufficient to neutralise the effluvia from the feces of a family of a dozen persons. Here, then, is a triple benefit procurable gratuitously—a benefit to the health, to the comfort, and to the wealth of the community.

A NEW BUILDING MATERIAL has lately been introduced into Pottsville, Pennsylvania. It is a brick fifteen by thirty inches, so made as to promise almost equal durability of stone, at one third the cost.

GRAPE CUTTINGS should never be planted in an upright position, as they are not one tenth part so likely to grow, as when laid horizontally.

MANAGEMENT OF DAIRY STOCK.

I RECOMMEND the following mode of managing a milk stock, the principles of which are followed by the best milk-selling farmers. Curry and wisp the cattle once a-day, give water twice a-day, when in the stall, and an hour's airing in the yard. Let the food be given to them at exactly the same hour every day, and likewise the water. When food is given, and any cow does not take it readily, take it from her and let her be without any until next feeding time (this is the way man should do to remain in health).

Never pamper immediately after calving. At milking time, the master or mistress should assist, or be present, in order to see that the milkers milk briskly and without talking. A great deal depends on these two points. A milker may sing or whistle, but not talk, but then it must be tuneable. There is an old saying, that the "last drop is the richest," and should be drawn. This is wrong, for the last drop from a good milker never does come. I have seen milkers pulling at the udder for the "last drop," while a weakly-constituted cow has been nearly sick. A mother who has suckled children can understand this, and yet I have known thoughtless mothers to forget it when milking cows. In dripping a cow, (stripping,) a milker finishes with his right hand, by taking the teats in rotation, and getting what he can out; and when he gets hold of a teat, if he can get milk twice, he must try that teat again after he has gone them round; but if he can only get milk once, he should give up; for the last drop which ought to be taken is then come; and if more after this is got, it is a pull upon the milk veins, and is no richer than milk taken at the first, or rather, it is of an average quality.

If a milk farmer intends to follow his business to the best advantage, either he or his wife must themselves milk, or be present during the time of milking. One of the best managers I am acquainted with, always did the dripping himself, and left the others to do the regular milking.—*Agricultural Gazette.*

A CONVERSATION WITH MR. BOLLING, OF VIRGINIA, ABOUT FARMING.

Drilling Wheat—A Fair Experiment.—Mr. Bolling, of Virginia, informs us that he selected four acres upon his plantation, at Sandy Point, and gave Mr. Pennock choice of one half, which he sowed with his drill machine, five pecks to the acre, and the other was sown at the same time, with the same quantity and kind of seed, in the usual manner, broadcast—the labor being just about equal. The two acres drilled produced 34 bushels, and the two acres sown broadcast, 35 bushels. Notwithstanding this seems in favor of broadcast sowing, Mr. Bolling recommends the use of the drill by all farmers not provided with an ample supply of laborers; for the reason that the operation of sowing can be carried on advantageously with a less number, by the drill, as the ground being previously prepared for the drill, two hands are sufficient to carry on the operation of sowing.

Mr. B. is of opinion that the yield, when well put in, whether by drill or harrow, will not vary materially; the sole advantage of drilling being in the labor of sowing, which will enable small farmers to put in more acres, and thereby increase the crop.

Harvesting Machines.—Mr. Bolling has heretofore cut his wheat mostly by hand labor; but, in consequence of the great improvement lately made by Mr. Hussey, in his harvesting machines, he intends to make use of them another year, largely.

Threshing by Steam.—We asked Mr. B. if he still continued strongly in favor of steam power for agricultural purposes. "Sir," said he, "if my engine were about to be taken away, and I could retain it by paying \$10,000, I should certainly do it. It is not only a labor-saving machine, but a *wheat-making machine*. If it were not for my engine, I could not follow my land, unless I kept a double force of teams, and that no farmer can afford to do. Now, while my regular plow teams are at work, other hands that would be almost unemployed, are constantly engaged at the threshing barn; by which I am not only able to sow more acres, but do the work better, because I am not hurried in the operation, as many farmers are; for, while the plowing goes on, my crop is getting ready for market in the most economical and expeditious manner."

What about danger of fire, in using steam power for threshing? Do you find that the prevalent objection among farmers against adopting this kind of power is well grounded?

"Not in the least. My engine room is at one end of the barn, with brick floor, and plastered sides and roof, and I have not adopted the common precaution of carrying off a horizontal flue to the chimney stack, because my chimney does not emit sparks of any account. I use pine wood, and the bark, only, of that will give off sparks. From coal, there would be none. I consider the risk of fire so trifling that I do not insure my barn, while I do the dwelling and other buildings, where there is really more danger; for there the servants do not use so much care and watchfulness."

Why is it then that farmers are so slow to adopt this great improvement, when they can get such excellent engines as are now built, of any power they desire, from one horse to a hundred?

"Why, Sir, because they are so much like the terrapin, that will only begin to move after he feels the fire coal the boy puts upon his back to make him crawl."

This burning illustration of a remarkable fact, we were constrained to adopt as a very truthful one.

Profits of Sheep in Virginia.—Mr. Bolling's farm is not a grazing one. It consists of 2,700 acres, (see *Agriculturist* vol. viii., page 254.) divided into five parts, two of which are in wheat, one in corn, one in young clover, one in fallow or volunteer clover, every year. As his land improves under his system of cultivation every year, he has been obliged to increase his

stock, to eat and trample down the excess of vegetation. For this object, he keeps about 200 head of sheep, which afford cheap, healthy food, so far as it is advisable to feed fresh meat; and wool to clothe his people, and all the lambs he has to spare for the butchers, bring him \$4 apiece. His wheat has averaged 23 bushels, upon 500 acres. Would you know why, or rather, how he is able to do it upon such a soil as his? By 120 bushels of lime to the acre, in three applications, and by plowing with three stout mules to every plow, and by covering the young clover with a shade of wheat straw.

Unproductive Capital.—Besides the land in cultivation, Mr. Bolling has, or had, about 4,000 acres of land in forest, lying idle and useless, as it has for a hundred and fifty years or more. He has lately sold 1,500 acres for \$20 to \$30 an acre; which is not more than the timber is estimated to be worth, lying as it does contiguous to James River, 75 miles below Richmond. He would gladly sell the remainder, as he is anxious to see the land put to some better use than lying idle and unproductive.

HOW TO MISMANAGE A GARDEN.

FROM a series of chapters in the London Agricultural Gazette, on the above-named subject, we select the following sarcastic directions as adopted by the mismanager in the use and application of water:—

Water is not an uncommon source of profit to the mismanager. It is quite astonishing, indeed, how easily this element may be made to assist in spoiling a garden.

Foolish people say that it is a part of the food by which plants exist, and that it requires to be administered with care, skill, and discretion. But your geniuses are not to be bamboozled by fine names, or what the world believes to be authority. They know better. How, indeed, can anything be fed on water? Can a man, or a horse, or a sheep? Even a goose on a common won't live on water, but must have grass. How, then, should a plant? The opinion of the mismanager is decidedly that water is of no other use than to moisten the soil, and therefore, he keeps his soil as wet as he can.

He has also his own ways of applying it. When he waters the plants in his borders, he gives them "just a sprinkle," by holding the watering can high, and allowing the drops to dash on the ground "quite natural like." By repeating this operation once a-day, he will by degrees bring his ground to a nice hard surface, so as to keep in the heat, and be easily raked. It is true that hard, hot ground is not favorable to the admission of water; but, then, it has the advantage of looking well; and besides, if water is poured on it, somewhere or other it must go, and it will be sure to find its way to the roots—if it does not find its way to the gravel walks or a neighboring ditch.

In like manner, if plants are in pots, they should be deluged overhead, from a coarse-rosed watering can. When you see the water running out of the hole in the bottom of the pot, you can be under no mistake that plants have

had enough. It is true that a good deal of soil and other matters run out of the pot along with the water; but that is of no consequence; there is the more room in the pot for a further supply of water. It is true that little or no water remains in the pot, the ball of earth being too hard to receive it; but that also is of no importance, because it is so easy to water it again.

Some people, on the other hand, soak their potted plants very gently, and when the ball of earth has taken all it can, they then remove it carefully from the water. But that is troublesome, takes up a great deal of time, slops a man's legs, and is merely a fancy of folks who pretend to be wiser than their neighbors.

Another method to be particularly recommended, is, to water trees in the open ground, by pouring down water at the foot of the stem. The man who has genius for mismanagement knows the advantage of that. Water is to moisten roots; the biggest roots are at the foot of the stem; therefore water should be applied to the foot of the stem. It must be owned that the advantage of the practice is not apparent, unless a heavy storm of rain should fall immediately afterwards; but as the reasoning is correct the practice must be right.

It will be evident that the plans of the mismanager are far more judicious than those of the man who contrives to irrigate his beds by turning a gentle stream over them. If it were only because so much labor is saved by irrigation, such a Frenchified way ought never to be adopted. It is just as absurd as that plan of warming water in tanks artificially heated or exposed to the sun, before using it. Who would drink lukewarm flat water, if he could get it fresh and cold from a deep well; and why should a plant like it? As to warming it by hot-water pipes, that is about the silliest scheme of the modern pretenders to a knowledge of gardening. A laboring man might as soon think of washing his face and hands in warm water. Besides, plants cannot feel. If you ask our friend, the genius, whether he does not think that warm water would agree better than cold with a laborer in a violent perspiration, or who had been stewing all day in a hothouse, he triumphantly enquires whether a plant is a man. It may be true that tropical plants come from countries where cold water is unknown; perhaps they do; perhaps they don't. At any rate the mismanager will teach them how to bear it; and it cannot be denied that to harden plants is an object with all real gardeners.

Never have a syringe in your garden. What is the use of a syringe? It only throws water on leaves; but where is the advantage of moistening leaves? Even if plants did feed on water, they would not feed by their leaves. You might as well put a man's roast beef under his arm pit and expect him to fatten by it. Still more repugnant to all the mismanager's ideas is the foolish habit of syringing the walls and brick paths of a greenhouse. What is the use of that? What good can it do a plant to throw water on a brick wall not within a yard of it? No, no; keep the footpaths dry and nice to

walk upon; keep the walls dry too—(if you do not they are very likely to be covered with “green,”) and then you will make things comfortable. If you do employ a syringe be sure to use it most when vines are in flower, and afterwards when they are in fruit; and in the greenhouse, first when the flowers are opening, and next when the wood is ripening. When they are making their growth it is of no consequence.—*Gardeners' Chronicle*.

VILLAGE LECTURES.—No. 2.

The Soil and the Air Continued.—A plant is made up of roots, and a stem which carries leaves. It does not live in the soil only—the greater part of it lives in the air. Almost the whole of the plant above ground is covered with pores, little holes in its skin through which it absorbs, sucks in food. Only the *extremities* of the roots have these pores by which they can absorb nourishment. No doubt the roots do take in water from the soil, and along with it they will take in whatever the water has dissolved in it. But then, if you examine this water, you will find very little of the matter of wood, or of cheese, or of corn, or of meat, dissolved in it. The water which comes from our drains, and which is such as the roots of plants suck up, is indeed apparently clear and quite pure, very good water to drink, but none of us would get fat upon it if that were all we had to live upon. Neither, you may depend upon it, will a tree nor a plant get stouter and grow if that be all that it has to live upon. The soil contains quite as much vegetable matter at the end of a rotation of crops as it does at the beginning; it contains a great deal *more* vegetable matter after a forest of trees has been grown out of it than it did when the acorns were planted; therefore, all this matter could not have been got out of the land—the water could not have dissolved all this matter out of the earth and furnished it to the roots of plants, so that they might suck it up and flourish upon it. No. The great bulk of every plant that grows enters it—not by the roots from the earth, but by the leaves from the air. It is the air and the sunshine and the rain water, not the mineral matter of the soil, that make our trees shoot, our turnips swell, and our wheat and grain crops ripen their seed.

But before entering upon the argument by which I have to prove this, I may as well just refer to the idea which some people may have that a plant changes the matter of the soil on which it feeds into its own substance. It cannot do this; it cannot make one thing into another. It must have the right things given to it, or it cannot grow; too much of one thing will not make up for the absence of another. Unless a mason be provided with the wood and the bricks, and the mortar, he cannot build the house; and neither can a plant build its own structure up unless it be provided with the right things in the right quantity. The mason might have abundance of bricks; but if he had that alone he could not proceed; he could not

make everything he wanted out of an abundance of only one of them. And just so with plants; you must not think that they can make the wood, nor the seed, nor the leaves, nor the root, out of the earth of the soil. They have no power to make one thing into another; they can only make wood of the matter of wood; leaves out of the matter of leaves; seed out of the matter of seed.

It is quite consistent with what is known to say that when the world was created, only sixty or seventy different kinds of particles or atoms, and a certain number of each sort were called into being; and that though they were put together in so many different forms, and though as time passes some of these substances thus formed are continually being taken to pieces, as it were, and decomposed, and others are being built up of the pieces, yet the world is made of just the same number of each kind of particles or atoms; the same number of pieces of each kind now, as it was 6,000 years ago. It is consistent, I say, with what is known, to suppose that not one particle has been created since—not one since been converted into another. Each is as it was when originally called into being, and though not in the same place now, nor united with the same companions now as it was then, yet it is the same particle possessed of the same shape, size, and weight, and endowed with the same properties.

Now, these particles are perfectly distinguishable and perfectly recognisable, but I cannot go through the process just now by which the individuality and proper distinct character and existence of each is proved, and therefore you must be content to believe me when I say that the soil contains comparatively few of those particles which go to make the bulk of a tree, or the substance of butter, of cheese, of wheat, or of meat—that it positively contains more of them every year under good farming, notwithstanding that butter and cheese, and wheat and meat, are every year being sent off to market, and that, as neither a plant, nor anything else can change one thing into another, the matter of wood, or of one different agricultural product not being in the soil in sufficient quantity, it cannot come out of the soil in sufficient quantity to form the building material of the trees and plants that grow upon the land. The great bulk of each came not from the soil but the air.

You will see, by-and-bye, notwithstanding that it is quite consistent with this statement, that the farmer should cultivate and manure the land to make his plants grow; for, though the soil does not provide the plant with much of its substance, yet it provides something which is necessary to it and without which the plant could not live. If the plowing and harrowing and manuring were of no use to the crop, of course, no one would go to any expense in cultivation. If the air provided all the food that plants need, people would not labor at their gardens; they would just sow their seed, and then pray for the wind to blow and the rain to fall, and the sun to shine, till the crop was ripe;

then, indeed they might have to wake up for harvest time. But it has been so arranged that plants require our labor both at seedtime and harvest, and all the season through, in order that they may yield their utmost; and thus employment, as well as food, is provided for man.

Now let us return to the case of one tree. We have proved that its substance did not come from the soil; for the matter of wood is not in the soil in quantity enough, and the plant cannot change one thing into another—and as air is the only other thing that the plant has access to, the inference is, that it must get its substance thence. Well, but you will say, "If the wood is not in the soil it certainly is not in the air. There is nothing solid or substantial in air like the matter of wood must be." I think I can prove to you that there is something like the matter of wood in the air, nevertheless. Suppose that you cut down that tree, which you say could not have come out of the air, and set fire to it and leave it for a little while—on your return you find that it has gone—that is, it has burned up. Where has it gone to? If it never was in the air before it is in the air now, for certain; and the clear air into which it has been converted will go to furnish the matter of wood to other trees which are still growing. The tree did not all disappear, however. It left some ashes behind it. Well, the ashes of the tree are what it got from the soil, and they are thus returned to it; and whatever of the tree will burn or rot away back into the air, just goes to the place from whence it originally came.

Plants make their growth by food from the mineral kingdom, which includes the air; and animals by food from the vegetable kingdom; but there is constantly this compensating process going on, that every plant and every animal that lives, eventually dies, and each gives back to the sources from whence it was obtained, the matter of which it is made. I suppose that all the plants on the surface of the globe now, if weighed, would not be heavier nor lighter than the vegetable covering in which the earth was clothed 5,000 years ago; and I dare say that the quantity of animal matter now in life is not greater nor less than the quantity which lived in any other year since the world was fully peopled. The plants take food from the earth and the air, and grow and feed animals, and these die and return to the dust, furnishing the earthy part back to the soil from whence it came, and the combustible part back to the air from whence it came. You can imagine a farm which should be a little world by itself—large enough to maintain a family—it should provide the materials for their cottage and food for themselves; and wheat enough should grow upon it, and sheep and cattle, and flax and grass should flourish there; so that woolen cloth and linen and beef and mutton and bread might all be made from it; and thus this family need never leave this bit of land, and it would, as I said, be a little world by itself.

Now the soil furnishes its portion; that is, their ashes, to the grass on which the cows feed

—and to the stems of the flax and to the wool of the sheep and to the food of the people; but there is no fear of its being ultimately impoverished by this—for it gets it all back again very soon, for the cattle are killed and the men die—and the plants wither and the ashes of all are returned to the land whence they came—and the fuel is burned, the dunghill rots away in the ground, and thus all the part which was obtained from the air is returned also to it. There is no difficulty now in conceiving of such a farm as this yielding so many tons of cheese or so many bushels of wheat every year without suffering. We know that this did not all come out of the soil, so as for us to be obliged to believe that there are hundreds of tons of cheese or of wood or of wheat all in the soil now to furnish future crops; and we know that it did not *all* come from the air, so as for us to be obliged to believe that there is the matter of all the crops that shall be harvested, and all the timber that shall be cut to the end of time, now existing in the air ready to be used year by year as time passes. What we now know is this—that every year the soil contributes what may be called the mineral part of our crops—their ashes, in fact, if they were burned—and little else; and the air contributes almost all of the woody part of them—what would disappear if they were burned; and each in the course of a very few years receives back again to itself whatever each had given, ready to be used over again to make new crops and new produce—new food to feed another race of men.

In the case of the farm that yielded the five tons of cheese every year—it does not lose five tons of the cheesy part of the soil annually; the soil has no cheesy part to lose—all that it loses is just such a quantity of earth as the ashes of these five tons of cheese would amount to if they were burned. What quantity of ashes would be left by five tons of cheese if they were burned? A very few pounds—and that is all the farm loses every year. Certainly it is not the common sand of the soil that exists in the cheese, but it is a part of the earth of the soil that is sent off with the cheese, nevertheless; a very small portion, however, and one which the soil could lose every year for a very long time indeed without being any the worse for it. I burned a ten-pound mangold wurtzel the other day, and here are all that remained of it; these ashes weigh about an ounce, all the rest of this root comes from the air, and it has all gone back to the air from which it came.

TRANSPORTING SEEDS.—The Chinese method of packing seeds for distant transportation, is to put them in small bottles, with the ashes of rice chaff. They allege that if this be omitted, small maggots are hatched during the voyage which destroy the seed. This ash or any other, if not too strong, we presume acts in two ways; 1st, as an absorber for any moisture which may be present, and 2nd, as an alkali to destroy the latent eggs or larvæ of any insects.

LETTER FROM AN OLD FRIEND IN ILLINOIS.

MUCH as I have always found in the Agriculturist interesting and useful, and for which I would not be without for ten times the cost, I seldom find articles from the state of my adoption, or those particularly applicable to Illinois farming. But that is provided for by "our paper," the *Prairie Farmer*, while yours is of more general application to the whole country—to the American agriculturist, from Maine to Oregon, from Canada to Florida. I therefore wish our farmers would write more. [So do we. It has ever been our aim to make ours a national paper, and we have been to great expense to collect information from all parts, to give it a character of interest and usefulness to all of our readers.—Eds.]

We need here an infusion of that light of improvement, which often shines effectually in the east, before it begins to dawn here. The reason is obvious to all who know anything of the history of Illinois. The southern and central portions of the state are settled by that class of persons known in the slave states, as "poor white folks," who never having enjoyed the advantages of education and refinements of civilisation, are content to continue in the same unimproved condition of their fathers, satisfied with a supply of "corn bread and common doings," for every day, and more than satisfied with "wheat bread and chicken fixings," for extraordinary occasions. With the unreading adults of this class, what can be expected in the way of scientific improvement of agriculture, horticulture, floriculture, or stock raising? They know but one way, and have not the ability to learn any other; but you will say the northern portion of the state is settled with a Puritan stock, off-shoots of New England and other northern states, where they early learned the paths of pleasantness and peace that lead to the old school house and village church. True, they have spread over the rich prairies around every grove, and locust-like, they swarm around every village site, where, but a few years ago, none but the red man, the hunter, or the soldier, had ever trod. In all this region, not a dozen adults can be found, who can call this their own, their "native land." Yet, amidst the toil and care of creating new houses, wresting the land from its savage wildness, and turning it into broad fields of golden grain and ripening corn, and building cities, towns, and villages, fine farm houses, barns, mills, and manufactories, the people find time to read, and if the American Agriculturist were better known, it would be more read; for every number is full of valuable information, for all classes, and may be read with profit by Illinois farmers, and farmers' wives, sons, and daughters.

Inclosed, you have my subscription for next year, and my sincere wish, is, that you may have many more from this garden spot of the west. J. D. S * * * *

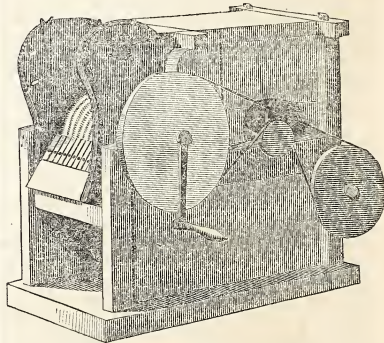
McHenry Co., Ill., Oct., 1850.

We cannot resist the temptation to publish the above letter, though not intended for that

purpose. The writer knows the expensive efforts we have made to make this paper one of the most interesting and reliable ones of the kind ever published in the country. Others, like our friend above, often tell us it is not "particularly applicable" to this or that particular section. We are glad to hear it, because we do not intend it shall be. If we were now about to adopt a name, or change the present one, we would call it the *National Farmer*, because it is a paper for the nation, not a section. We desire to receive communications and information from every section, and if our friends in Illinois will favor us, we shall be obliged to them; and certainly we have no objection to have them send us a few more subscribers for the next volume.

HAND COTTON GIN.

THESE are usually made of about eighteen saws, and worked entirely by hand. They gin equally as well as the larger or horse-power gins, but, of course, work much slower.



HAND COTTON GIN.—FIG. 88.

THE CULTIVATOR—SUBSOIL FLOWING.

In my former articles on improved farming implements, I noticed the plow, harrow, and horsrake. I now shall offer a few remarks on the cultivator, the subsoil plow, and their uses.

The cultivator is an implement, which, within the last few years, has come into general use among those farmers who go in for improvement. It is used in the cultivation of corn, potatoes, and other crops planted in rows, or drills, and needs no particular description. The teeth are usually from five to seven in number, and are made in such form as to cut and stir the ground even and alike. The frame is sometimes made to expand and contract to suit the width of the rows.

The subsoil plow is of recent invention, and its particular use is yet but little understood by the great mass of farmers. It is simply a plow without a moldboard, upright in form, with a narrow point for a share, and a sole to run upon. Its use is to follow directly behind the sward plow, in the same furrow, going down to a depth of

from six to twenty inches, into the subsoil, as the case may be, loosening and stirring up the soil, without bringing it up to the surface.

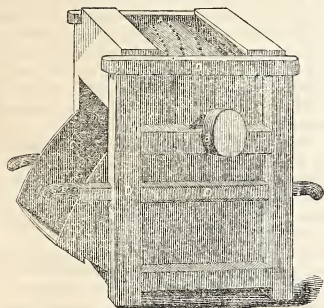
Formerly, it was the habit with farmers to plow only from three to four inches deep, and from year to year, the ground was penetrated only to this depth. The consequence, was, the plow going only at this depth, a hardpan, or crust, was formed, by the tread of the cattle in the furrow, and the sole of the plow pressing down, which, in the course of a few years, made the subsoil so hard that plants could not strike their roots below for support. But, by using the subsoil plow, this hardpan, or crust, is broken up and pulverised, so that the roots of plants can reach down and find support.

In flat, level lands, which are inclined to clay, subsoil plowing is invaluable, as it breaks up the stiff soil, and lets the surface water down, making the soil more permeable, light, and productive. Also in high, rolling, and gravelly lands, subsoiling breaks up the hardpan below for deeper cultivation; and, in fact, I think there is but little, if any land, but will be benefitted more or less by subsoil plowing. Yet how many farmers, out of the mass, in the next ten years to come, will avail themselves of the use of this plow—those of us who live may see.

L. DURAND.

Derby, Ct., August, 1850.

ROOT AND APPLE GRINDER.



ROOT AND APPLE GRINDER.—FIG. 89.

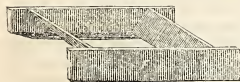


FIG. 90.

THIS machine has been recently constructed for the purpose of grinding, or rather rasping apples, by which the fruit is reduced to a fine pulp, and the juice can be much more thoroughly pressed out, than by the old process of grinding. It is also made to rasp or grind the several species of roots, as the mandiocca, or Brazilian arrow root, the Curcuma angustifolia, or East-India arrow root, the Cycas circinalis, the Zamia pumila, of Florida, the Maranta arundinacea, or common arrow root plant of the West Indies, and the yuca or cazabe root, a plant of Cuba; also potatoes, &c., from which the arrow root, tapioca,

and starch are made. The machine can be propelled both by hand or horse power, as may be required. When large quantities of roots are to be prepared, the horse power is preferable. We make a smaller machine for rasping horse radish, &c., which works by treadle power.

MARYLAND FARMING—A GREAT TURNIP CROP.

In our opinion, Charles B. Calvert, of Maryland, is the greatest grower of roots, for stock, in the United States. His farm is known as Riversdale, seven miles towards Baltimore, from Washington city. The soil is a sandy loam, and has been very severely cropped, and greatly reduced in fertility, until he undertook the renovation system, that has made such a contrast between his land and that surrounding him, which only bears a scanty crop of broom sedge and scrub pines. His turnip crop last year was 25,000 bushels upon about 30 acres. These have nearly all been fed to stock upon the farm, or at the National Hotel, in Washington, which he provided for. He keeps eighty cows, mostly Durhams, besides other stock.

Manner of Feeding.—The turnips are cut up with a root cutter, some twelve hours before feeding time, and sprinkled with salt and bran. The salt entirely prevents any unpleasant taste in the milk. At the same time, a quantity of cornstalks are cut, or rather ground fine, and these are fed to the cows, mixed with the turnips at the rate of two bushels of stalks to one of turnips a-day. Upon this feed, without any hay, the cows are kept all winter, and give milk all the time.

Milking Qualities of the Herd.—Mr. Calvert states that he has cows that have averaged 16 quarts a-day, through the year, and produced a calf. They do not stop milking at all, before calving. The milk, for a week or two previous, is used for feeding calves, none of which are ever allowed to suck.

Profitable Cows.—Mr. C. kept twelve cows at the hotel about nine months, and fed them as above, watering them in their stalls, and the yield of milk averaged 40 gallons per day, worth 25 cents a gallon. This is one of the most profitable results that we have ever met with.

Calf-Fattening Experiment.—Mr. C. fattened one calf which he sold to the butcher at three months old, for \$30—a pretty round price, say some of our readers, for a calf. So it is, but he lost double that sum by the experiment; for the calf consumed an average of four gallons of milk a-day, worth \$1, besides meal, and the trouble of feeding; and yet only brought one third as much as the milk would have sold for.

Gentleness of Durhams, as Milkers.—We asked Mr. Calvert if he had ever experienced any difficulty with his Durhams about milking. His reply was, "Not in the least. They are just as gentle as any breed I ever saw." The milking is always done in the stable. Many of his cows are superb animals. He keeps a few common ones to fill up his compliment of milkers, and to supply demands for purchase of common cows. The calves of these, he suckles till

four day old, and then sells them to the butcher. (Query. What for? Do they feed congressmen upon such delicate young veal?) As he feeds no hay, he has quantities for sale. It brings him from \$15 to \$20 a ton, in the city—seven miles' hauling.

Good Taste in Furniture.—Some of the handsomest I ever saw was at Riversdale, made of oak, which the proprietor had sawed in his own mill, and made into furniture, to order. It is not only good and handsome, but is home-manufactured, of home-grown timber, and that adds to its real value, in the eyes of all home-bred Americans.

CARTS, DRAYS, AND OTHER THINGS.

In almost every town, there is some peculiarity about the vehicles to distinguish them from any other place. In New Orleans and New York, the drays are similar—with stout shafts, broad-boarded beds and projecting tail pieces and low strong wheels—a very convenient vehicle for the purpose it is used. In contrast with these, are the drays of Montreal and Quebec. Fancy a high pair of wheels, not stout, upon which is mounted a long narrow ladder with a very diminutive specimen of a horse attached to one end, no matter which, and the whole concern the most inconvenient, uncouth, unappropriate affair for the purpose that could be designed, and you have a Canadian dray.

In Louisiana, you may see many carts drawn by three mules a-breast, having wheels six or seven feet high, with enormous great boxes containing a travelling dry-goods store. Similar ones are used upon plantations. To load any heavy article into one, requires a good deal of strength and engineering. They are as unfit for a farm cart as a Canadian dray.

Contrast with these a Canada cart; such as I first saw at Coburg, upon lake Ontario. The wheels are about four feet or four and a half high, with a crooked iron axle, so that the bed is hung within six inches of the ground. The shafts are attached to the cross bar of the forward end. The hind end is moveable. The convenience of rolling barrels and bales in and out of one of these carts can readily be seen; and upon hard ground or plank roads, or a long wharf like that of Coburg, they must be extremely convenient and run just as well as though the load were mounted up in the air as high as the back of an elephant. There is common sense and utility in such carts for many situations. A very common sight in Canada are dog carts, and it is very surprising to see what large vehicles they are, and what loads a couple of stout dogs will carry. I doubt however, the utility.

Another very common vehicle, in Quebec, is the "caleche." It is somewhat like the body of an old-fashioned gig, without the top. In place of the dash board is the driver's seat; so there is room for two inside passengers. It is useless for me to tell you how they drive up and down these crooked mountain streets and lanes barely wide enough for two of these break-neck furries to pass. The thing must be seen to be

believed. Don't offer to ride in one, unless your life is insured for the benefit of your family or some charitable institution and you feel quite willing to have your neck broken for the promotion of the happiness of those you leave behind you—a good way behind, if you ride long at the usual speed.

Upon the farm of Capt. Rhodes, near Quebec, I saw a wagon that had some new features about it, at least so to me, though common in England, I believe. Forward of the axle, in place of the horses, is a frame as wide and as far forward as the bed, with a convenient iron work to attach one or two pair of shafts. The convenience of the plan is alleged to be, that, in many cases, the wagon can be used with one horse to advantage—that the two pairs of shafts are preferable to a tongue, because the cart harness, (without traces), answers for the wagon, saving time in shifting and expense of extra harness.

The bed of this wagon is made as wide as it can be between the wheels and for convenience of turning, a jog is made upon each side where the forward wheels would strike, so it can turn very short and thus gives more room inside.

I have no doubt but this wagon is worthy of imitation; as, for instance, when required to be taken to the potato field in the morning to be filled during the day, and to be removed two or three times within the time, one horse can do it as well as two. In bringing home a load of wood, as it is all the way descending from "the bush" (as all woodland is called in Canada,) Capt. R., finds one horse will do the work just as well as two. And so it is with many other things. The only objection I see to working two horses in shafts, is, that each works independent of the other. But for some situations, these and the Coburg carts, are both worthy an introduction in a more southern latitude. And much to the advantage of the Canadians, particularly about Quebec, would be an introduction of some of our very neat, strong, and light road wagons, in place of the universal little one-horse cart.

As for the Montreal drays, no one who has ever seen a different kind, would continue to use such an awkward contrivance unless as strongly wedded to ignorance and stupidity as are some of the cultivators of American soil, who still continue the use of implements equally awkward and inappropriate for the purpose, as ladder drays or dog carts, and some other things that they laugh at their neighbors for using.

SOLON.

Note by the Editor.—"Uncle Solon," like many of his travelled countrymen, forgetteth the ways of his father land, while describing a foreign one. Surely he has not forgotten the peculiarities of the old Boston dray, or "truck," with shafts large and long enough for the sills of a respectable-sized house; nor the enormous load often seen upon one, of five or six hogsheads of sugar, drawn by as many horses. A long train of these great, uncouth-looking vehicles, winding through some of the narrow, crooked lanes, peculiar to Boston, is very suggestive of something somewhat *sea-serpentine*—the hogsheads an-

swering for the "humps." Perhaps a better dray for all purposes cannot be found, than those in use in New York. They would be very convenient farming implements.

ROUGH NOTES BY THE WAY.

I AM astonished as I pass around the country and behold how much apathy and total neglect there is in the important branches of horticulture and fruit; and this leads me to a little incident I met with the other day while on a visit to the house of a friend. He invited me to visit a nursery far up on the side of one of the Fishkill Mountains, situated in East Fishkill, about eight miles east of Newburgh. Mr. Burrows is the owner and cultivator of these trees and fruits, as well as garden vegetables and flowers, well worth the attention of all cultivators of the soil. The grounds are situated on the southern declivity of a high and rocky mountain. He has for sale a large assortment of fruit trees of very healthy appearance and but recent growth; and the fruit, peaches in particular, is of the finest flavor, and command the highest prices of any in the New-York Market.

The altitude of his location almost perfectly secures him from blighting frosts, and at the same time matures his crops about ten days later than the same varieties mature on the banks of the Hudson, in the same latitude, thus affording a good market for his early crop while others have entirely disappeared.

The site of his finest and most productive grounds, a few years since, consisted of a stagnant frog pond, ledges of ponderous rocks, bogs, and bushes. He planted a lot of peach stones at first for his own use, without thinking of going into the nursery business. Their fine appearance prompted his neighbors to purchase them. The second attempt was followed by a like demand. This accidental circumstance directed all his energies toward a nursery. He has most admirably succeeded; and by his industry and enterprise, has converted the mass of the crudest and most forbidding materials that had laid for centuries neglected upon the mountain top, into gardens of the greatest fertility covered with luxuriant trees, shrubbery, and flowers. It is a place of considerable resort in the fruit season; and while the visitor is refreshed by the air, his eye is feasted by the extended view of the surrounding country; and his palate gratified with the choicest fruit the land produces. A single glance at these grounds associates with the name of Mr. Burrows the idea of industry, skill, and enterprise, very creditable to himself; and his whole plan is an abiding example of rewarded perseverance, earnestly inviting others to go into the mountains, or rather on better lands, and do likewise. Tradition says that the man who first settled on this spot was seized upon by the wolves and carried upon the highest peak of the mountain, and on examining his bones, they found them too poor to pick, and so brought him back again! Mind I do not vouch for the truth of this legend.

Dutchess is a splendid farming district, perhaps the best county in the state; but it is susceptible of much greater improvement than at

present. The farms are too large, especially in the eastern part of it. High farming and deep culture is out of the question, and the paying for or reading an agricultural paper is by many considered time and money thrown away. Honorable exceptions to the above are numerous, however. In passing a large farm in one of my excursions, I found the road strewn with weeds, which, on examination, I found to consist of wild carrot, Canada thistle, daisy, and snap-dragon. Very soon I came to an intelligent young man digging and throwing them into the middle of the road, to be destroyed by teams and carriages passing over them. I inquired and found he was employed by the owner of the farm, who, he said, would allow nothing of the kind to grow upon his premises. Well would it be for our country if all were like him. Several articles appeared in the *Agriculturist* a few years since upon the injustice of one neighbor, suffering obnoxious weeds to cast their seeds upon the lands of one who is so careful to destroy them—it is a trespass of the worst kind. I am told there is an act in the statute of New York making it the duty of the road master to cut up and destroy all obnoxious weeds in his district. Is it so? I wish rather than hope, to see the day when all men will do as they wish others to do by them. SAMUEL ALLEN.

New York, Oct., 1850.

THE MONTEZUMA MARSHES.

We have often inquired, when passing these widely-extended domains, which, like the Campagna or Pontine marshes of Italy, for miles encircle the eternal city, spreading malaria, desolation, and death, whether this unreclaimed and almost unexplored kingdom of the crane and the flypoke, the frog and the mud turtle, was not susceptible of drainage. The answer to this inquiry has always been in the negative; and yet, as we coasted along down the borders of the Oswego River, with its rapid descending current, constituting a ready discharge for the waters of these lowlands, we always distrusted the thoroughness of these surveys. We are glad to find our conjecture verified by more recent explorations, and that, by taking a short cut of nine miles, only, to Sodus Bay, the level of Ontario is reached, instead of through a distance of 40 miles, by the windings of the Oswego. A canal, by this new route, will tap these pestilential waters at their lowest point, and reclaim thousands of acres of the richest land for the use of the husbandman. We hope to see this project followed up, and if practicable, at once undertaken.

SCHOOL OF APPLIED CHEMISTRY.—In referring to Professor Norton's advertisement, page 383, we are happy to say, that his school is in a flourishing condition, the number of students increasing, and the facilities for instruction also. As fast as the students are ready, they get good places; for the demand increases far more rapidly than the supply. This shows that the spirit of agricultural improvement is slowly on the march. We hope its pace will be gradually accelerated.

FURTHER NOTES ON JEFFERSON COUNTY.

From Kingston, I took a run across the lake, 40 miles, to Sackett's Harbor, upon that beautiful American boat, the Bay State, making the trip in two and a half hours. The American boats, like almost everything else undertaken by Yankee enterprise, have much more of the go-a-head quality, than those of the British.

Sackett's Harbor, is a town of some 1,200 inhabitants, situated in what may be termed the southeast corner of Ontario, once a flourishing military station, the glory of which has departed. Like Kingston, it depended upon the army and navy, instead of the soil, until the glory of the town has also departed. The extensive barracks are almost useless, and an enormous shiphouse and its inclosed frigate, which has stood there more than thirty years, is not only useless, but a monument of the foolish waste of human labor. If the half million of dollars it cost, had been spent in the endowment of an agricultural school, how much the sum of human happiness might have been increased, and how much better defence against enemies, would have been the minds of enlightened men, than is this wooden monument of folly. This town is the principal port of the wealthy agricultural county of Jefferson, a county rich in her enterprising citizens, and rapidly growing more so through her dairy products and manufactures. It contains two hotels, besides a few taverns, and other conveniences for consuming the alcoholic portion of Indian corn. There are several respectable stores, and more churches than manufactories; and a bigger custom house, *in proportion to the commerce*, than New York or Boston can boast of.

Watertown.—This is 10 miles east, the seat of justice for the county, containing about 6,000 inhabitants, and is altogether a very flourishing go-a-head sort of a place; and since the great fire, that consumed the business part of the town, several splendid blocks of stores have been built, and others are building, equal to those of any inland town in the state. In private residences, I will match this place against any other in the Union, large or small, to show as great a display of common sense in their arrangement. I certainly never have seen so great a proportion of remarkably neat, moderate-sized cottages, embowered in lovely groves of ornamental and fruit trees, with grassy lawns in front, (for all stand back from the street,) as all dwellings always should in town or country. The grove, surrounding the house of Mr. E. S. Massey, whose hospitalities I enjoyed during my short visit, is one of the most beautiful native growth, I think, I ever saw. The trees are mostly sugar maple, for which and their rich products, the county of Jefferson has long been celebrated. An immense grapevine springs from one corner of the yard, and extends itself upon several trees, and frequently gives fifteen or twenty bushels of rich fruit in return for the little plat of soil it occupies. Go, sluggard, and plant a vine, and thou, also, shalt enjoy such luxury.

Note.—The article in the November number, entitled a "Jefferson-County Dairy Farm," would have been the proper continuation of this.

SOLON ROBINSON.

THE PHILOSOPHY OF HUMAN LIFE.

At fourteen years of age, I entered a dry good store as a clerk. I had been a very active boy. The sedentary station, probably caused me to become dyspeptic. I was troubled with flatulence and belching, and thought it useful to eat more to expel the air from the stomach. Physicians said I had consumption of the lungs, and ordered a low diet. After several years, without change, I thought they misunderstood my case. I eat more, and passed on to mature age, and was troubled, not only with flatulence and belching, but with much pain in the stomach also; and doctors advised me to take saleratus or soda, to neutralise the acid, and peppermint, to ease the pain. I followed this prescription, and continued to eat heartily. If I did not take regular meals, at regular times, I was cramped in the stomach, and suffered greatly. My countenance was pale and sickly, as usual. I continued this course without much change till about forty years of age. I then ruminated upon the subject and the thought occurred, that I eat more than the stomach could digest properly, which caused the pain and flatulence. I resolved, at once, to eat half meals, as an experiment. When I left the table with half a meal, it was painful to my feelings. Between ten and twelve o'clock, I found it necessary to eat a crust or a cracker or two, till my stomach conformed to the change. I soon found that I had discovered the true cause of my ill health, and had no trouble of belching and pain in the stomach; and my countenance became healthy.

I required great watchfulness and self-denial, to leave the table with half a meal and a good appetite; but I persevered, and became confirmed and satisfied that I had adopted the true course. Half an hour after eating, when digestion has begun, the hungry feeling ceases; if not, eat a crust or cracker or two, till the habit is fully established. This course I have pursued for the latter half of my years, and I have enjoyed improved health, vigor, and comfort. I am obliged, however, to watch my appetite, and not indulge in it, for it would soon lead me astray, as I have found, when I have incautiously eaten a very little too much. I am not sensible that my faculties are impaired now, at four score years. If I take cold, it leaves me in a quarter the time it did in early life. I formerly ate supper, and suffered if I did not get an early breakfast. I now take a light meal at tea, at five to six o'clock, and breakfast at seven to eight o'clock, without any inconvenience from hunger, after fourteen hours of abstinence. When I ate more, as I formerly did, if I lost a meal, I did not recover it for a fortnight. Now, if I lose a meal, I feel no cramp and little inconvenience from it. This course has proved to me to be the true philosophy of life and health. Except for this, I should have been mouldering in the grave twenty years ago.

If the stomach is stimulated too high, by eating and drinking, it flags as much below when empty, and causes pain in both extremes. If you eat but little, the stomach is at ease and quiet. I drink water only; and do not use tobacco, nor any intoxicating liquors, nor any narcotics. I do not eat to feel any fullness, but merely to check the hollow feeling. If those who had suffered as I did, read this, and are willing to practise self-denial in eating, they may profit by it as I have done. The stomach should not be idle nor loaded, but uniform meals are the safest course. If necessary, eat two or three crackers between meals, till the habit of eating half meals is established. This is condemned by many—the error is in eating too large a lunch, and not by eating little. If you tell your friend that he eats too much, he is offended.

More persons die by eating and drinking too much, than from any other cause. Many would live on a hundred years, by this regimen, as the antediluvians did, who only ate vegetables. Children should be taught to eat as little as they will be satisfied with, and plain food will accomplish this best. If you are troubled with belching, it is a proof that you have eaten too much for the stomach to digest properly. If the food is properly digested, the wind will pass down. Thus it is a good test.

I write this on the importunity of friends, who think others may profit by it. When I was a boy, there were no meat markets but in large cities, and every one provided salt beef and pork for the summer. They ate pork and potatoes one day, and potatoes and pork the next. Then they ate to live; now they live to eat, and must have delicacies from the four quarters of the globe for a meal.

DAVID TOMLINSON.

Schenectady, Nov., 1850.

GREENWOOD CEMETERY.

If any of our readers feel disposed to inquire what this has to do in the pages of a paper devoted to agriculture, we answer, go and see what improvement of the soil may do to beautify a very rough spot; and even in an agricultural point of view and for purposes of cultivation, how infinitely more valuable this place now is than it was half a dozen years ago, when its diversified surface of hill and dale was all covered with bushes and briers, save a little patch here and there of grass, just enough to dignify the place with the name of "pasture," while its real value as such or any other agricultural purpose, has not been enough perhaps in the past fifty years, to pay three per cent. interest upon its valuation.

And yet this is within four miles of the city of New York; and immediately adjoining are other lands still lying in the same unimproved and valueless condition. If it were in a forest country where the lands are still held by government at their nominal price of ten shillings an acre, it would not be at all surprising; but here, where land, properly cultivated, produces such a rich return, it seems to be a wasting of the

good things provided by nature in her beneficence, for the support of men, that the productive energies of the soil should be permitted to lie dormant so long. As a proof that the country is not a new one, there may be seen along the road that leads past the "old mill," about a mile this side of Greenwood, a house, built in the year 1699, of bricks brought from Holland.

In our opinion, there is nowhere within the sound of the city bells so pleasant a ride as to Greenwood Cemetery; and our advice, not only to citizens, but to our country friends, whenever they have a leisure day in New York, is, for a few hours to leave the busy Babel and visit this delightful resting place of the dead. It may inspire them on returning to their own homes and visiting the old burying ground of their native village, with its dilapidated walls, broken gates, and bare graves, to determine that *improvement* shall be undertaken, at least, if not completed equal to the romantic spect of which we have been writing.

RUSSIAN SUPERSTITION ABOUT POTATOES.

WHEN potatoes were introduced into Russia, towards the end of the last century, the people conceived a great dislike to them and called them the "Devil's fruit," on account of some foolish tales that had been told of this now almost indispensable edible. One of the stories, was, that they were created on purpose for the Devil when he complained on being turned out of the garden, that he had no fruit. He was told to dig for it which he did, and found potatoes. Hence the common people of Russia, who are very superstitious, would neither plant nor eat them at first.

There is a curious and somewhat similar tale, in Scotland, about the introduction of potatoes into that country at a period long before that assigned in history for their introduction by Sir Walter Raleigh.

The legend is that one Michael Scott, who was called the Wizard of the North, entered into a compact with the Devil to rent a farm in partnership. The Devil was to furnish money and the wizard do the labor, giving him alternate crops. That is, the first year, he was to have all that grew below the surface and the next year all that grew above, and the wizard the other part. Thinking to outwit the Devil, he planted all his land in wheat the first year and all in potatoes the next, so the Devil got nothing but stubble and vines. But he beat the wizard at last, for the severe system of cropping exhausted the land, so the wizard could neither raise wheat nor potatoes, and he was obliged to grow more honest to his land as well as to his landlord.

It would be well for some farmers at the present day, who follow the same dishonest course, in the cultivation of rented land, as well as their own, to take the hint, or they may find themselves in a fair way of being ruined.

Some of the first cultivators of potatoes picked and eat the balls, and conceived a violent dislike to the new kind of fruit, and at once said potatoes were good for nothing. Opinions have very much changed since then. R.

OHIO STATE CATTLE SHOW.

This first effort of the State Board of Agriculture in getting up a Fair and Cattle Show, was held at Cincinnati on the 2d, 3d, and 4th of October. The show grounds comprised about thirteen acres, between the Miami Canal and Mill-Creek Road, three miles southwest of the city. The attendance was large, numbering several thousand people, from Ohio, Indiana, and Kentucky, with delegations from the New-York State and other Agricultural Societies. The receipts, upwards of \$6,000—are larger than has been received by any state society heretofore held at its first exhibition.

The show grounds were, under the circumstances, well arranged; and with the aid of Mr. T. C. Peters, of Buffalo, who assisted in planning the erections, and Mr. Joseph Alleyn, the efficient and experienced assistant of the secretary of the New-York State Agricultural Society, at its annual exhibition, who arranged and took charge of the books of entries, premium lists, and detail of the business office, all under the general direction of the Ohio State Board, with Mr. Michael L. Sullivant at the head, Morton Watts, Mr. Gest, and sundry other gentleman, the whole affair went off in capital style; and much to the satisfaction of the parties interested, and the public at large.

The weather was pleasant, but dry, and annoyance from dust was the consequence; but the excellent plan adopted by the board of agriculture in sprinkling the highway for a mile and a half of the distance from the ground, proved a grateful relief to the visitors. Would that the city authorities could have had the spirit and liberality, to have done their part of this important duty. Had they done so, every one who suffered from the suffocating dust of that thronged Macadam road, would have blessed them. Outside the usual concomitants of such gatherings, were the elephant, the giraffe, the three-tailed monkey, eating houses, thimble-riggers, and grogeries in abundant proximity. The last two, disgraceful in the extreme, and should have been broken up and dispersed by the city authorities. At our own state show at Albany, this year, the same thing was permitted, to the shame and disgrace of the city authorities.

At the entrance gates, and within, good order and arrangement were observable; and although new at the work, the state board of managers showed a commendable spirit of energy, and of purpose in carrying out their plans. Judged by one of our state cattle shows, this, as might have been expected, fell far behind in general effect; but with time and experience, Ohio, will, beyond question, fully sustain her already achieved agricultural reputation, and go on in a prosperous career of improvement.

Entering the gates, first appeared the cattle ranges, which extended over near one third of the inclosure. They were occupied chiefly by shorthorns, the favorite stock of the Ohio breeders and graziers. The descendants of the far-famed Ohio Company, and other importations of 1834, 5, 6, 7, 8, and 9, were there, well representing

their ancient blood and quality in their several classes. A few fine fat oxen and steers were exhibited, though nothing like the numbers that might have been expected from such a broad grazing state. They were, however, as a class, very good. A few pairs only of working oxen were on the ground—this not being a burden to which the Ohio ox is designed—beef being his chief destiny. It was unfortunate that a great cattle show was held at the same time in Lexington, Kentucky, as many fine animals were expected from that quarter to attend this exhibition. The principal exhibitors in cattle were Messrs. Sullivant, Watts, Vose, and the Renicks, of the Scioto Valley, and the Prices from Clark county, Mr. Cloone, of Cincinnati, and a few others. Lewis F. Allen, from Black Rock, New York, showed two or three short-horn bulls and calves, which were purchased by Mr. Cloone and other breeders, and a fine young Devon bull brought by John H. James, of Auburn; and L. S. Collins, of Dutchess county, N. Y., showed a select herd of Devon cows and calves; some of which were disposed of. Some choice Devons were also shown by Mr. Buckingham, of Muskingum county, from the herd of Mr. George Patterson, of Maryland. Herefords there were none; Ayrshires, but a single cow; and generally but a few only, in comparison with the vast number that are bred in that great cattle-growing state.

The show of horses was but moderate in number, although some fine animals of their several classes were on the ground in the get of blood, draught and all-work horses; but a single pair of mules, and a solitary Jack, belonging to the president, Mr. Sullivant, were shown; and had this part of the exhibition been taken as a sample of the product of Ohio in that department of stock, the state would have shown but a beggarly amount of what it really possesses in that valuable line of stock rearing.

The sheep were good—what there were of them; and the chief of these were foreigners. The Messrs. Bingham of Vermont, Collins of New York, and another from Indiana showed mostly in Merinos and Leicesters; while the Southdowns of Mr. Longworth and others, and a Leicester ewe, with a few Merinos and Saxons filled the remaining pens—all good in quality. In shepherd dogs, the competition was the greatest I ever witnessed—there being no less than seven on the ground. Although no doubt excellent dogs at home, but as exhibited in the horse ring, chasing and worrying half a dozen frightened, long-tailed, slaughter-house sheep, amid a thousand noisy, rackety boys and idlers, the poor dogs showed but indifferent play on trial. They were chiefly Colley's, excepting a pair of St. Bernards crossed with the Spanish sheep dog, of large size, one of which won the premium.

In Swine, it might have been expected, that, in the neighborhood of a city which slaughters 250,000 porkers annually, and on a ground not beyond reach of the savory odors of their place of sacrifice, would have produced a rare and numerous rivalry. But only a few were on

the ground, and those not highly distinguished for excellence. There were a few Berkshires, very good—the best on the ground; a few others white, or spotted, as the blood of commingling breeds predominated, but in the aggregate, far short, both in numbers and quality of what this great pork-producing state should exhibit. It may be well, however, to remark, that in a first exhibition of this kind, with but few avenues of transit by railway, or canal, and among a people unaccustomed to festivals of this sort, a timidity, only to be overcome by repetition, would prevail, and at a future time, a much more varied display will be made in all the departments of live stock. Four or five diminutive black Shetland ponies were exhibited by Mr. Dougal, from Canada West, which were purchased by Mr. James, of Auburn, for a Queen-Mab establishment, which, with two or three others of pied colors belonging to an Ohio gentleman, made a world of fun for the boys, and added to the variety of stock exhibited. A few coops of common-place fowls, set off by a dozen or two of Mr. Douglass' Dorkings, a few pairs of fancy pigeons, and a lop-eared rabbit or two belonging to Mr. Kitterel, filled these departments, and put the finale on the catalogue of domestic animals for the occasion.

In the domestic manufactures, farm implements, and miscellaneous departments, the exhibitions were large, varied, and extensive. Numerous works of handicraft, useful and ornamental, from Ohio and other states, were on the ground, all praised and recommended by their various fabricators and venders, while the usual amount of gim-crackery, good for anything or nothing, as the case may be, formed ample room for display and admiration.

The butter and cheese were good—what there was of it. The samples of wheat, corn, and other grains were excellent; and throughout these common-place departments, the show was creditable and gratifying. It is to be regretted that the mechanics of Cincinnati did not join in the exhibition of the state society, as it would have added greatly to the interest of the occasion. They held an exhibition during the same week, at their own building in the city, where was a grand display of their various workmanship; and as this is the great manufacturing mart of the Mississippi Valley, probably no town in the United States can equal the Cincinnati mechanics in the skill, variety, and quantity of their iron manufacturers, while in other materials they are increasing both in extent and value.

The Floral hall was beautifully got up and arranged—indeed what is not tastily done, when those charming despots, the women, have the direction? The show of flowers was rich, varied, and choice. Apples, pears, peaches, grapes, from Ohio, Kentucky, Indiana, Michigan, Illinois, Virginia, New York, Pennsylvania, and Canada were there and equal in quality and appearance to any ever exhibited. Flowers, too, in great abundance, were thickly festooned, or clustered or scattered in masses, or in ambuscade all over the tables, and the entire hall, as

in our own shows, was one dense crowd of people during the three days of the exhibition.

There were many guests from other states, and state societies, who were received with much hospitality and attention by members of the state board of agriculture, and their committees, and a welcome to their well-stored refreshment room on the grounds during the days of their show.

On the last day, in the afternoon, before the reading of premiums, in the absence of Mr. Corwin, who was appointed to deliver the address before the society, Gov. Wright, of Indiana, made a short off-hand speech, which was heartily received. Mr. Gest, a member of the board, then read the awards of prizes, and the affair was closed with the presentation, by Mr. Gest, on the part of the society, of a beautiful silver goblet to the veteran Mr. Nicholas Longworth, in a neat speech as a testimonial and acknowledgement of his services in the introduction and cultivation of the grape, and the manufacture of wine in Ohio, which was responded to impromptu, by Mr. Longworth. The audience then dispersed, and the labors of the board of agriculture for 1850 were concluded.

In one feature of this Ohio show, I was much disappointed. There were very few sales of stock of any description; so different from the activity in that line which marks the New-York state cattle shows. A perfect listlessness seemed to prevail on that subject; and what few transactions took place, appeared to be done after a long parley and haggling, which, to one accustomed to the off-hand purchases at the north, seemed very odd. They will probably improve in this department, one of the most beneficial objects of the occasion.

I may hereafter give you a sketch of other things of interest which I saw in my hurried sojourn through Ohio. A VISITOR.

ENGLISH BARLEY CULTURE.

As our adult readers are generally aware, Indian corn is not an English crop. Barley is much cultivated not only for malt but food. It is sown after turnips, which are also a great crop there; also after peas and beans, but seldom after wheat or oats; that rotation being too exhausting to the land.

Quantity of Seed.—Upon rich land, eight pecks per acre are commonly sown, and sometimes twelve, while upon poor lands a still larger quantity of seed is given; the object being to put on seed enough to prevent all off-shoots, which are produced when too little seed is used and injures the crop. The most common seeding time is in April, though good crops are often produced from much later sowing. Barley is always considered a difficult crop to save in bad weather in England, but in our more genial clime for harvesting, it is not so much so. It should be cut before the straw gets brittle, (and so should wheat and oats,) and well dried before stacking, or it is very apt to heat. A good way to prevent this, is, to make a hollow stack. Take four poles and fasten together like a four-sided ladder, two feet square at bottom

and running to a point at the top, and build the stack around this, well elevated from the ground, and it is almost impossible for grain to spoil.

Barley is a very tender plant, and requires more care than wheat or oats. A heavy rain, falling just after seeding, will sometimes ruin the crop. It is also more difficult to thresh and clean than wheat, on account of the awns adhering so closely to the grain. Yet it is not a crop that should be neglected by the farmers of this country; for, in seasons when the wheat might fail, the barley crop would be perhaps a very good one. Light, sharp soils are considered the most appropriate for barley. There are several varieties of this grain cultivated in this country and each one has its particular advocates. We cannot pretend to decide the question which variety is the best. Probably the very heavy six-rowed kind, which is so excellent upon a rich strong soil, would be condemned by the owner of a light soil, for the two-rowed variety, as more profitable to his situation.

TOOL SHOP FOR FARMERS.

EVERY farmer ought to possess a variety of tools, such as needed in repairing farming implements—fences, gates, and pens; and for doing such work generally as will always be required on the premises, and which every person may acquire the habit of doing, although he has no mechanical trade. How often does a nail give way, and hence a board become loose! If he has nails and a hammer at hand, a few minutes will be sufficient to make it secure. Whereas, if permitted to remain insecure, it may fall and be broken, so that a new one will be required to supply its place. How often will the fastenings on a gate or door demand a brief attention, to prevent destruction from the wind, as well as to keep the stock from going where they ought not! How often does a rake tooth or an axe handle get broken; a hoe handle become loose in its socket; an ox-bow pin gets lost; a floor plank in the stalls become damaged! If he has tools and materials at hand for making repairs, he may do it himself, in half the time to be occupied in going after a mechanic to do it; besides, if he does it himself, he does not have to pay another person for doing it.

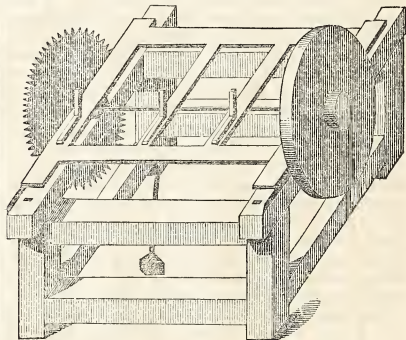
To do these things, he must have hammers and hatchets, gimlets and augers, chisels and gouges, drills and screw drivers; saws and files, squares and compasses, pliers and pinchers; also, a punch, a vice, an adze, a drawing knife, a gauge, and perhaps twenty other articles, the cost of which is not much, not equal to what they will enable a person to save in a single year, if he uses them as he may do. Besides, the time generally taken in such acts would never be missed; it is fragments of leisure about the season of meals, or stormy days, when nothing else would be done. With such habits of attention to the farming implements, and to the various fixtures on the premises, whenever a job of work is to be undertaken, no delay is caused by the want of instruments with which to effect it. This is the secret why

some farmers get along with their labor so much better than their neighbors. They do not have to wait a day before beginning any specified operation, in going after a carpenter, a wheelwright, nor a blacksmith, after the laborers are personally ready to engage in it.—*Blake's Farmers' Every-Day Book.*

WOOD-SAWING MACHINE FOR CUTTING FUEL.

THE subjoined cut shows a machine in general use for sawing wood. It is easily driven by a one-horse railway power, and is capable of sawing several cords of wood per day. It is simple and easily worked and kept in order.

Others, of larger dimensions, are used for slitting plank, boards, scantling, &c. For this purpose, a different saw is required than when used for cutting across the grain. For the last purpose, the teeth are triangular; for the former, they are hooked like an eagle's beak. The first is called the cross-cut, the last the rip saw.



WOOD-SAWING MACHINE.—FIG. 91.

GEORGIA BURR MILLSTONES.

OUR attention has been called to this subject with a request to notice an article of American production and manufacture, intimately connected with the farming interest. An article in the Savannah Republican, copied from a letter of Haxhall & Brothers, extensive millers of Richmond, Virginia, to the manufacturers, speaks of them as more than equal to an average of French burr stones, and intimates, that, if the same quality of grit is abundant in Georgia, there is no further need of importation.

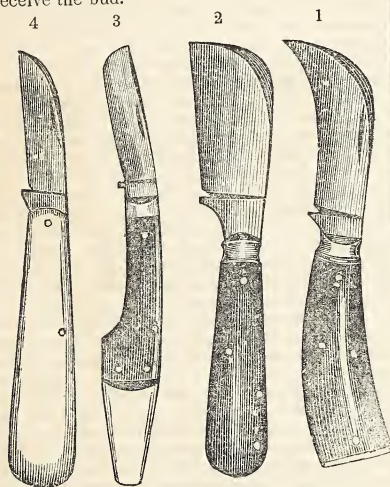
As to the abundance of material, there is no question, and we hope it may prove fully equal in quality to that of France, but of this we have our doubts. Similar grit to this has been long in use in Ohio, Indiana, and other western states. When first dressed, the stones are fully equal to French burr, but do not wear so well. There is also occasional soft spots and sometimes poor blocks, and after the surface is worn off, the body of the stone seems, although hard, to lack that peculiar open texture, that gives value to the French burr. We hope this will not be the case with the

Georgia stones, but that they will prove fully equal to any in the world. It will give us pleasure to assist in making the fact known, whenever we are satisfied the quality of the article will warrant the assertion that it is fully equal to French burr. We are already satisfied that it makes very excellent millstones.

PRUNING AND BUDDING KNIVES.

THESE instruments, as denoted by Nos. 1, 2, and 4, are of good and convenient form for pruning young trees and are made strong and heavy for that purpose.

No. 3 represents the best and most approved form for budding. The edge of the blade is rounded at the point, and will shut up as a pocket knife. At the other end is permanently fixed a thin flat ivory lifter, with which the bark is loosened and raised, after being cut to receive the bud.



PRUNING AND BUDDING KNIVES.—FIG. 92.

CATTLE SHOWS AND FAIRS.

So far as our observation extends, these have been uncommonly successful this fall. We have noticed several and would gladly have visited and noticed many others. We suggest some early arrangement for forming a programme of fairs for next season, so they may be held as near as practicable, in regular succession, thus enabling many to visit them, in course, without inconvenience. If officers of all societies within visiting range of New York will make the *Agriculturist* a medium of communication upon this subject, as early as June or July next, we will prepare a table of the times and places of meeting and keep it before our readers each month; and such as can be conveniently attended by ourselves or agents shall be, and it is also probable we may be able to contribute towards the show something from

our Agricultural Warehouse. Will the local papers publish this notice and urge the importance of such an arrangement upon all agricultural societies?

Our crowded columns require the notices of fairs visited by Mr. Robinson, last month, to be very brief.

Maryland State Agricultural Society.—The third annual fair was held at Baltimore, October 23d, 24th, and 25th. The society have a permanent location for show ground near the Baltimore and Ohio Railroad, two miles from the Pratt-street Depot, containing four acres, well fenced, and fitted inside with cattle stalls upon three sides, and sheep and pig pens on the other, all of which were well filled.

The Devons, particularly the large show of Mr. Patterson, seemed to attract much attention. Mr. Holcomb, Mr. Clement, Mr. A. B. Davis and others exhibited beautiful Devons and made several sales of those receiving premiums. We understood Mr. Davis was offered \$200 for his Devon cow, Jeanie Deans, and calf, which he declined. Mr. Calvert made the greatest display of Durhams. The show of cattle was quite large and comprised some very superior animals, and some very scrubby ones, as will be the case while the owners are permitted to show off and perhaps get premiums for most unworthy brutes, for want of competition. A premium should never be granted to a mean animal because he is the best exhibited. Giving the sanction of the society to a black-nosed, beef-heeled Devon bull, that would only bring \$35, at auction is not the best way to improve the breed.

Fat Mutton.—Mr. Reybold added a very rich feature to the show in the exhibition of fat wethers from his celebrated flock; one of which weighed 290 lbs. live weight, and 205½ lbs. of dressed meat. This is probably the heaviest mutton ever butchered in America. Col. Carrol, a descendant of an honored name, as well as Col. Ware, of Virginia, also exhibited sheep of the same character. Sheep and swine of various breeds were well represented.

Horses.—There were some good horses, particularly one six-horse team and one of the best six-mule teams ever seen by the writer, among the many thousands he has noticed. Both of these belonged to one gentleman, Mr. Samuel W. Worthington.

Locomotive Engine for Farm Purposes.—The liberal premium of \$100, offered for the best article of this kind, only brought one upon the ground. This very important subject should have the attention of every society till a perfect and low-priced machine is produced. Improvements will be made upon the one exhibited, undoubtedly.

Agricultural Implements were displayed in great abundance. Perhaps the most important of these are machines for sowing and cutting wheat, which seemed to have nearly reached perfection. It was pleasing to see that implements designed expressly to improve the agricultural interest attracted the greatest notice from the crowd.

The arrangements of this society are the most perfect of any in the country. Everything about these grounds shows the work of a master spirit, and a mind full of energy to do good, which actuates the managers, particularly the President, Charles B. Calvert. Every evening during the fair, a meeting was held at the society's rooms in the city, where reports of committees were made, and matters relating to them and the interests of the society and candidates for premiums freely discussed.

The *Annual Address*, was delivered by Hon. Willoughby Newton, of Virginia, and was just such a common-sense document as might have been expected from one of the best practical farmers in the country; such as always should be selected upon every similar occasion. It will be referred to again when published.

Burlington-County (N. J.) Fair.—This was held as usual at Mount Holly, and in contrast with that at Baltimore, shows the great want of some permanent fixtures. The show of cattle, particularly some Devons of Thomas Hancock and Mr. Ferris, as well as some fine Durhams, good natives, and some beautiful oxen, was highly creditable. There were some good horses, and a fine show of swine, the Dutchess and Chester breed being the favorites. The show of sheep was beneath notice. The exhibition of agricultural implements was meagre. A very large tent was filled with vegetables, fruit, flowers, and ladies' work and dairy and household manufactures. But above all things else, the show of people exceeded anything ever witnessed at the fair of any county society, not only in number but in general thrifty appearance of men, women, and children, and all the appurtenances of good teams and wagons, and carriages, which plainly showed the prosperous condition of agriculture in that part of New Jersey.

The address was made by Dr. Emerson, of Philadelphia, but whether good or bad, what man can tell? For none could penetrate the immense mass of females who filled the tent so densely that to get near enough to hear was out of the question. It was exceedingly gratifying to witness such a turn out, as it gives promise of success. We predict that no common event can stop the onward progress of this society in its career of usefulness.

A permanent location should be fixed upon and improved, and farmers should lend something besides their mere presence to help make up the annual show. The officers of the society should adopt measures to make the people read, by giving books and agricultural papers as premiums, and by an easy arrangement with publishers, getting a *dollar* paper for *fifty cents*, so as to give every one who will pay the society a dollar, a certificate of membership and subscription to the paper. The good effects of this plan are visible in many other counties.

One great fault in the Mount-Holly fair was in the necessary hurry to get through in one day. It should be continued at least two days, to accommodate such a mass of people.

Fair of Westchester County, N. Y.—This was

held this year at Tarrytown. To say it was worthy of such a wealthy farming county, is stretching the truth too far. Any half dozen farmers could get up a better show if they desired. Think of 25 entries of cattle and 19 of sheep in such a great stock county—probably a dozen head of swine and as many coops of fowls—a few good horses and a few more not so good. As for agricultural implements, farm wagons, carts, and carriages, or agricultural machinery, where were they? Echo answers.

There was perhaps a cart load of vegetables and fruit, and other small matters arranged under a most superb, large tent; under which was also arranged a speaker's stand and seats for the better half of creation, and very fine standing room for the other half.

The plowing and spading match of the American Institute, held in conjunction with this county fair, though spirited in the performance, was very meagre in point of numbers of competitors only three plowmen and four spaders entering the lists. Yet, notwithstanding the meagreness of the show, the crowd of people in attendance upon both days was worthy of all commendation. Many of these were the wives and daughters of farmers, some of whom were not only intelligent, healthy, and thrifty in appearance, but truly beautiful. Upon both days, the great tent was crowded full to hear the addresses of Dr. D. P. Gardner and General Dix, both of which were full of good things and duly appreciated by an intelligent audience. If a quarter part of the people of Westchester possessed a small share of the enthusiasm of the president of this society, they would soon make it one of the best in the state.

No doubt another year will add greatly to the interest, as a good spirit seemed to be awakened at the meeting and a determination to improve. If the plan proposed of putting an agricultural paper into the hands of every family who will become members, is carried out, the very next show will do credit to the county; and a particular friend of the cause will be there to lend his aid to help along the improvement. Shall he have the pleasure of meeting many old friends and making more new ones among the farmers of Westchester?

•••
EDUCATION OF FARMERS.—Farmers often complain that they are deficient in education. For this, there is no necessity. Let them support and improve good common schools. Let them avail themselves of the other means of mental improvement within their reach, and they will acquire an education adequate for any occasion they will be called to meet; and they will hold an elevation in society held by no other class of men. It is known that they have a large amount of leisure. Let this be spent in the cultivation of their minds; in laying up stores of knowledge.—*Blake's Farmers' Every-Day Book.*

•••
GRAPES WILL ROT in badly-drained land much more than upon a dry soil. Too much shade will also rot them. To avoid this, pluck off the leaves and let in the sun.

Ladies' Department.

CHEMISTRY FOR GIRLS.

I TAKE my pen in hand not to utter a dissertation on female education, but to insist that young ladies be taught chemistry. They will thereby be better qualified to superintend domestic affairs, guard against many accidents to which households are subject, and perhaps be instrumental in saving life. I will illustrate the last remark by reference merely to toxicology.

The strong acids, such as nitric, muriatic and sulphuric, are virulent poisons, yet frequently used in medicine and the mechanic arts. Suppose a child, in his rambles among the neighbors, enters a cabinet shop, and finds a saucer of aqua fortis, (nitric acid,) upon the workbench, and in his sport seizes and drinks a portion of it. He is conveyed home in great agony; the physician is sent for, but ere he arrives, the child is a corpse. Now, as the mother presses the cold clay to her breast and lips for the last time, how will her anguish be aggravated to know that in her medicine drawer was some calcined magnesia, which, if timely administered, would have surely saved her lovely child, perchance her first and only boy! O, what are the bouquets and fine dress in the world to her, compared with such knowledge?

Take another case: A husband returning home, some summer afternoon, desires some acidulous drink. Opening a cupboard, he sees a small box labelled "salts of lemon," and making a solution of this, he drinks it freely. Presently he feels distress, sends for his wife, and ascertaining that he has drunk a solution of oxalic acid, which she has procured to take stains from linen. The physician is sent for; but the unavoidable delay attending his arrival, is fatal to the patient. The doctor arrives, and perhaps sees on the very table on which the widow bows her head, a piece of chalk, which, if it had been given in time, would have prevented any mischief from the poison.

Corrosive sublimate is an article generally used by domestics to destroy the vermin which sometimes infest our couches. A solution of it is left upon the chamber floor in a teacup, when the domestics go to dinner leaving the children at play—the infant crawls to the cup and drinks. Now what do you think would be the mother's joy, if, having studied chemistry, she instantly called to recollection the well ascertained fact that there is in the hen's nest, an antidote to this poison! She sends for some eggs, and breaking them administers the white (albumen). Her child recovers, and she weeps for joy. Talk not to her of novels—one little book of natural science has been worth to her, more than all the novels in the world.

Physicians in the country rarely carry scales with them to weigh their prescriptions. They administer medicines by guess, from a teaspoon or the point of a knife. Suppose a common case: A physician, in a hurry, leaves an overdose of tartar emetic, (generally the first prescription in cases of bilious fever,) and pursues his way to see another patient ten miles distant.

The medicine is duly administered, and the man is poisoned. When the case becomes alarming, one messenger is dispatched for the doctor, and another to call in the neighbors to see the sufferer die. Now here is, in the canister of your cupboard, and on a tree that grows by the door a remedy for this distress and alarm—a sure means of saving the sick man from the threatened death. A strong decoction of young-hyson tea, oak bark, or any stringent vegetable, will change tartar emetic into an innocuous compound.—*Selected.*

•••••
WASHING DIRECTIONS.—FROM THE SOAP MAN.—Calicos, and other goods not printed with fast colors, should be washed in a weak suds, using none but the best bar soap. Flannels and other woolen goods, after being well soaped, should be washed in cold water until quite free of suds. Never wring nor twist any woolen garment, to free it of water; but fold and gently press out all that will flow easy, and then hang it upon the line to drain and if necessary squeeze out the accumulating water from the lower edges once or twice. When dry or nearly so, shake, whip, or pull the article to expand it to its full size and prevent the natural tendency to full up which wool has.

•••••
MILLINERS IN LONDON.—There are about 15,000 milliners and dressmakers in London. A very large portion of these girls are boarded and lodged by their employers, and they often come from the country healthy and strong. During the busy season—that is, from April to August, and from October to Christmas—the regular hours of work at all the principal houses are, *on an average, eighteen hours daily!*

•••••
CLEANSING OR RENOVATING BRINE.—To five gallons of brine, add one egg, broken and stirred in, and then bring to a gentle boiling and skim and cool for use. Saltpetre added to brine, at the rate of two to four ounces to the 100 pounds of meat, gives it a fine, reddish color. A little brown sugar adds to the flavor of beef and pork, particularly for smoking, besides possessing an antiseptic quality.

•••••
TO KEEP DOOR KNOBS CLEAN.—Ladies are very fond of keeping the door knobs, spoons, plates, &c., in brilliant order. Now, if, instead of water and chalk and such preparations, they will use camphene and rotten stone, a far brighter, quicker, and more durable polish will be attained.—*Exchange.*

•••••
TO REMOVE WHITE SPOTS FROM FURNITURE.—A warming pan of coals, or a shovel of coals, held over varnished furniture, will take out white spots. The place should be rubbed with flannel while warm.—*Ibid.*

•••••
CURIOUS PENALTY OF THE ARABS.—The Arabs allow a man to divorce himself from a wife who does not make good bread. Were such a law in force in our country, half the young married ladies, we fear, would be in danger of falling back into single blessedness.—*Exchange.*

Foreign Agricultural News.

WE are in receipt of our foreign journals to the 2d of November.

Markets.—Cotton $\frac{1}{8}$ d. per lb., lower. Tobacco, an advance. All other American produce about the same as reported in our last. Business generally was good, and a large consumption of our produce may be anticipated for the coming year.

Cheapness of English Sparrows Tend to Cruelty.—A few months since, while making some purchases at the shop of a bird fancier, a ragged urchin rushed in and asked for a "penny bird." In exchange for his penny, he received a cock sparrow. Shortly afterwards, a little girl entered, with scarcely sufficient clothes on to cover her person; her demand was for a "halfpenny bird" There was handed to her a hen sparrow. From the exquisitely-savage feeling of delight with which both birds were clutched by their respective purchasers, it would require little of the spirit of divination to enable one to predict their fate—torment, doubtless, and starvation; but they were "only sparrows!"—*Gardener's Chronicle*.

Interesting Fact in Cutting off Potato Haulms.—*Tombelle-Lomba's Remedy for the Potato Disease.*—In the beginning of April last, a few potatoes, of the seedling kidney kind, were received from Mr. W. Stent, of Stockworth, as a variety of great excellence, but not very early. They were immediately planted in heavy, well-drained, kitchen-garden land, without manure. In the beginning of August, they were in flower. The flowers were nearly all removed. In the midst of August, the leaves were extensively spotted, and, with the haulm, became offensive to the smell. After remaining in this condition three or four days, the whole were cut down with a sharp knife, so as not to disturb the roots. About four inches of earth were then thrown over the ground, and the whole was rolled down firmly. Near the end of September, the crop was dug. The potatoes were excellent in quality, perfectly ripe, fully formed; and, out of a bushel and a half, not above a score were bad ones. The produce was at the rate of a bushel to a perch.—*Agricultural Gazette*.

Advantages Arising from Deep Culture and Pulverisation.—It is the oxygen of the air and water which changes the color of soils; by exposure, a red one will become yellow, arising from a different dose of gas. Apart from the benefit derived by the land in the act of continual exposure of fresh surfaces, and thus imbibing the gases of oxygen and nitrogen, and carbonic acid gas, from the air, and hydrogen and oxygen from the rains and aqueous parts of the air; this process of culture divides and amalgamates the earths, disintegrates the particles of soils, and is of the most essential service to close tenacious ones, when they are bound together by winter rains or summer drought, by admitting the aqueous particles to roots. Much more depends on an intimate division of the soil, than is generally considered, seeing that air and water are the principal sources and media of vegetable food; culture will therefore partially supersede manuring, by opening the surface earth, so that it may receive the boons offered to the industrious cultivator, by the bounteous hands of Providence.—*Farmer's Herald*.

Lime Composts.—Experiments with lime and earth, lime and weeds, &c., are too numerous to quote. Several special and important conclusions are established, by the series made in the neighborhood of Edinburgh. From numerous trials, carried on for nearly forty years; it was demonstrated: 1. That the most effective and profitable mode of using lime was in a compound state. 2. That in the ensuing rotation, superior manuring became necessary, to render the part dressed with lime

only equally productive with the portion to which the compost had been applied; and, 3. That the effects of the compost were visible on all the crops of the rotation, but in a more marked degree upon the wheat.

In these cases, it seems that lime had been previously freely used, and had brought into use all the organic matter in the soil; hence, it was of little use when applied in its caustic state. The substances used in compost, were scrapings of roads, ditch scourings, earth from headlands—and the proportion of lime was one to three of the other material. The compost was applied every alternate rotation of cropping with wheat upon fallow. It was uniformly found that the crops in the course were as good, if not superior, to those grown with farmyard manure instead of compost. A compost of clay, coal ashes, and lime has been used successfully in the reclamation of peat moss.—*Farmer's Herald*.

New Agricultural Plant.—The first article in the *Farmer's Note Book*, by Dr. Augustus Voelcker, professor of chemistry in the Royal Agricultural College, Cirencester, is "on the chemical composition of quinoa seed" (*Chenopodium quinoa*). It is now about fifteen years since this plant was brought under the notice of British agriculturists; and at that time, it was represented as a plant likely to yield as much nutritious food on the same breadth of land as either wheat or barley. We then procured some of the seeds, and found the plant of exceedingly easy culture, yielding an immense quantity of small seeds about the size of millet, and well ripened in the open air with us, but did not then think it of sufficient importance to induce us to continue its culture. The plant is large and coarse looking, growing about from three to four feet in height, with foliage something like the leaves of atriplex, a weed known by some by the triviale name of fat hen, growing frequently on old dunghills. Its inflorescence is something like that of beet or spinach, and therefore no way ornamental.—*North-British Agriculturist*.

Bread and Biscuit Making by Steam.—A new process of making and baking bread and biscuits by steam under the patent of Messrs. Lee and Robinson, has lately been exhibited in London, by which the flour is placed in a hopper, and in its descent, it comes in contact with carbonated water, which immediately converts it into dough, in which form it issues from a cone below, and is cut off into portions of a given size, when, being received by an attendant boy, it is passed through other machines as it may be required for bread or biscuits, into which form it is almost instantaneously converted. The batch of bread or biscuits is then placed in an oven heated by the same steam machine, by which the whole machinery is worked, and within a few minutes is ready for the table; excellent biscuit being made and baked within 10 or 12 minutes. This application of the powers of steam, appears likely to effect a complete revolution in the baking trade, as two or three boys will be capable, with one man as an overseer, to conduct the baking operations of a large establishment; while the night work, of which the journeymen bakers now so much complain, in watching the sponge and preparing the morning's batch of bread, may be entirely superseded. It is understood that the whole cost of the machinery for carrying on the process does not exceed \$750, and that a saving in the cost of bread making of from 20 to 40 per cent. will be effected by it.

It is stated, that, should any parties, desirous of availing themselves of the advantages to be derived from the machine, object to the use of the carbonated water, barm, (as at present in use), is equally applicable by the machinery in the process of converting the flour into dough.

Editors' Table.

MR. A. SHERMAN, our travelling agent, is now on a tour through Delaware, eastern shore of Maryland, and Virginia, whence he will traverse several of the tide-water counties of Virginia and North Carolina, and perhaps, return by way of Upper James River, and the Valley, calling upon our friends in Loudoun, Fairfax, &c. The object of Mr Sherman, is, to extend the circulation of the *Agriculturist*, and make known our business. He will receive subscriptions for the *Agriculturist*, and furnish bound volumes of that and a few other agricultural books to subscribers; and take orders for goods manufactured or sold by us, at the New-York Agricultural Warehouse. Cash paid him on account of the *Agriculturist*, or A. B. Allen & Co., will be duly acknowledged. Facts communicated to Mr. Sherman, to enrich the pages of the *Agriculturist*, will be duly appreciated. He will also be able to communicate much useful information in public addresses, when desired.

BRAND'S ENCYCLOPEDIA.—The attention of readers is called to Messrs. Harpers' advertisement for this valuable work. We know of no single volume that contains more useful information for all classes of readers, than this book. Any person who has once learned its value, cannot well dispense with it, for he needs it for daily reference.

AWARDS AT THE LATE STATE FAIR AT ALBANY.—We regret to say that we made a mistake in our November number, page 353, in attributing this to the New-York State Agricultural Society. It is of the awards on swine and milch cows, at the state fair of *Rhode Island*, of which Mr. King complained.

PICTORIAL FIELD BOOK OF THE REVOLUTION.—Among the numerous pictures contained in this work, are several first-rate farm houses, just as they appeared in olden times. One of the most interesting is the Livingston Mansion, about a mile below Poughkeepsie; which, although lacking the adornments given to some of Mr. Downing's designs, is a true view of an old-fashioned country house, truly American in its character. This engraving may be seen at page 385 of No. 8, of the work alluded to.

In the November number of Harper's Magazine, some other views are published in anticipation of the regular issue of the Field Book; and others, not yet engraved, are still more beautiful than those published. The views of several of the buildings, already portrayed, are pictures of the character of the age—plain, solid, substantial, and well fitted for the wants of just such a people as inhabited them. Of this kind, is the Constitution House, page 387. How exactly an old-fashioned, one-story farm house, is represented at page 403. Steuben's head quarters, page 323 is another true picture of an old-fashioned farm house. Many others might be noticed equally striking and interesting, because they give more true views of American country houses, as they actually exist, than any other work published.

DWARF CHERRY TREES.—The plan of raising dwarf fruit trees in gardens where the proprietor has but little room to spare, and yet is desirous of having a variety of fruits is getting into general use. Thus, the pear is dwarfed by being grafted on the quince roots, or on the mountain ash, swamp pear, &c. The apple by being engrafted on the Paradise stock, and the cherry by being engrafted on the mahaleb stock. This mahaleb is a foreigner. We have thought that there was no particular necessity of sending abroad for a dwarf stock on which to engraft the cherry for dwarfing. We have a variety of dwarf cherries that grow well in this state, that would probably be as good, or

better than the mahaleb. There is the little wild red cherry, (*Prunus obovata*), that grows abundantly on our hills and mountains in Oxford and other frontier counties. There is the common black choke cherry (*Prunus borealis*), that grows in all parts of the state; and then there is the low trailing sand cherry, (*Prunus depressa*), abundant about the sand bars and margins of the streams in Aroostook county, and sometimes found in Kennebec. We have no doubt that any of these would make as good stocks for dwarfing the common cherry as can be found in the world.—*Exchange*.

DOWNING'S COUNTRY HOUSES.—A book with this title is so intimately connected with the objects aimed to be supported by this journal, that its publication requires more than a passing notice. From the title, we were led to hope that a work, very much needed, was about to be given to the American public. We have been grievously disappointed. The book is not what its title purports. If Mr. Downing had called it a continuation of Cottage Residences, or Rural Architecture, suited to the tastes and wealth of retired country gentlemen, it would have passed with our approbation. But now, it is not a work that can be adopted as a standard for imitation, as we understand the meaning of the expression, "country houses."

Let us ask our friend Downing—for such we esteem him—if there is a single plan among all the many beautiful ones the book contains, that he can recommend as exactly the thing for an American farm house? If there is, we beg that it may be pointed out, and we will copy the plan into our columns, with due credit to the work from which it was taken. Some of the features of Design xiii., which is denominated a "symmetrical farm house," would approach towards our idea of what a small farm house should be; but what shall we say of some others? The author says, "in our republic there are neither the castles of feudal barons, nor the palaces of princes." What then is the object of Design xx.? It surely has more the look of a baronial castle, than a plain country house, the ground plan of which is as unsuitable to the wants of an American farmer, as are many of the monstrosities already dignified with the name of farm house. Certainly, Design xxi. is as much like a palace as it is like an American country house, and the same may be said of xxvii., xxxi., xxxii., and several others. Then, again, the extravagant furniture represented and recommended, is entirely out of place, in a work that pretends to give designs for American country houses.

We concede to the author, talent and perseverance, in his labors, but we want him to call his works by their right names. There is another slight objection to this volume, and that is, the fashionable folly of making use of a great number of words which nine tenths of the persons who live in "country houses," do not understand. For instance, "Renaissance, Romanesque, Cinque Cento, chasseur, demi-toilette, en suite, conversatione, prosaic, terra cotta, ovolo, cyma, covetto, torus, astragal, Gothic and Tudor Gothic, and Tudor flowers; to say nothing of boudoir, corridor, music canterburys, quatorse, encoigneure, vertu, escriptoire, étager, jardinier," &c. which are sprinkled through the pages with no sparing hand. It may be said they are all technical or common words, and ought to be understood; but all who may read this book, do not possess Webster's quarto dictionary, nor understand the Latin, Italian, nor French languages; and some of them, most undoubtedly will say the frequent use of such words is a mark of pedantry in the author. In conclusion, we recommend the book to the perusal of gentlemen who have money to spend in ornamental, rather than in economical and useful country houses. S. R.

Review of the Market.

PRICES CURRENT IN NEW YORK, NOVEMBER 18, 1850.

ASHES, Pot.,	100 lbs.	\$6.12	@	\$6.19
Pearl,	do.	5.12	"	5.19
BALE ROPE,	" lb.	9	"	11
BARK, Quercitron,	" ton.	36.00	"	40.00
BEANS, White,	" bushel.	75	"	1.50
BEEFWAX, American, Yellow,	" lb.	20	"	26
BOLT ROPE,	" " "	10	"	11
BONES, Ground,	" bushel.	45	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping,	" "	9	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	50
Stearine,	" "	25	"	30
CHEESE,	" "	5	"	10
COAL, Anthracite,	2,000 lbs.	6.50	"	7.00
CORRAGE, American,	" lb.	11	"	13
COTTON,	" "	11	"	16
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	27	"	35
FLAX, American,	" "	8	"	9
FLOUR,	" "	3.62	"	4.12
Ordinary,	" "	4.25	"	5.00
Fancy,	" "	5.25	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	3.00	"	3.50
GRAIN—Wheat, Western,	" bushel.	1.00	"	1.20
" Red and Mixed,	" "	80	"	1.00
Rye,	" "	82	"	85
Corn, Northern,	" "	68	"	71
" Southern,	" "	68	"	70
Barley,	" "	95	"	103
Oats,	" "	39	"	45
GUANO, Peruvian,	2,000 lbs.	—	"	60.00
Patagonian,	do.	—	"	40.00
HAY, in Bales,	" 100 lbs.	45	"	60
HEMP, Russia, Clean,	" ton.	205.00	"	210.00
American, Water-rotted,	" "	160.00	"	200.00
" Dew-rotted,	" "	140.00	"	175.00
HIDES, Southern, Dry,	" "	9	"	10½
HOPS,	" lb.	10	"	30
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	6.2	"	7.5
Pipes for Pumps, &c.,	" lb.	5	"	7
LARD,	" lb.	7	"	8
MEAL, Corn,	" bbl.	3.00	"	3.37
MOLASSES, New-Orleans,	" gallon.	23	"	31
MUSTARD, American,	" lb.	7	"	10
NAVAL STORES—Tar,	" bbl.	1.75	"	2.00
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.35	"	1.40
Turpentine,	" "	2.44	"	2.75
Spirits of Turpentine,	" gallon.	45	"	50
OIL, Linseed, American,	" "	79	"	82
Castor,	" "	1.37	"	1.50
Lard,	" "	65	"	75
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.50
Black-eyed,	" 2	2.00	"	2.25
PLASTER OF PARIS,	" ton.	2.00	"	2.75
Ground, in Barrels of 300 lbs.	" "	1.12	"	1.25
PROVISIONS—Beef, Mess,	" bbl.	7.00	"	10.00
" Smoked,	" lb.	3.75	"	5.00
" Rounds, in Pickle	" "	6	"	12
Pork, Mess,	" bbl.	10.00	"	12.00
" Prime,	" "	6.3	"	9
Bacon Sides, Smoked,	" "	3	"	4½
" in Pickle,	" "	3	"	4
Hams, Smoked,	" "	5	"	9
" Pickled,	" "	4	"	7
Shoulders, Smoked,	" "	3	"	5
" Pickled,	" "	3	"	5
RICE,	" 100 lbs.	3.25	"	3.75
SALT,	" sack.	1.00	"	1.60
" Common,	" "	20	"	35
SEEDS—Clover,	" lb.	6½	"	9
Timothy,	" bushel.	2.00	"	3.50
Flax, Clean,	" "	1.00	"	1.65
SODA, Ash, (80 per cent. soda),	" lb.	3	"	—
Sulphate Soda, Ground,	" "	1	"	—
SUGAR, New-Orleans,	" "	5	"	8
SUGAR, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	7	"	8
TOBACCO,	" "	4	"	13
Eastern, Seed-leaf,	" "	15	"	20
Florida Wrappers,	" "	15	"	60
WHISKEY, American,	" gallon.	28	"	30
WOOLS, Saxony,	" lb.	40	"	60
Merino,	" "	33	"	40
Grade Merino,	" "	30	"	35
Common,	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market 2,000 beef cattle, (800 southern, the rest from this State and the East,) 100 cows and calves, and 10,000 sheep and lambs.

Beeves.—The demand for beeves, at both up and down town markets, since our last, has been tolerably active, but transactions to-day close dull. Prices are without material change from those quoted last week. Sales of good retailing qualities at from \$5.50 to \$7.50. About 300 unsold.

Cows and Calves are in better request. All sold at prices ranging, as in quality, from \$2.50 to \$4.5, which is hardly up to the highest mark of last week.

Sheep and Lambs have come in very freely, and purchasers have operated with considerable spirit. Prices of sheep \$2.50 to \$4.50. Lambs, \$1.50 to \$3. Left over, 1,500. nov. 19.

REMARKS.—Corn, Rye, Barley, and Naval Stores have advanced materially since our last; in other produce we note no material change.

The Weather has been unprecedentedly fine at the North; South, early frosts have somewhat injured the sugar cane on the most northern Louisiana plantations.

TO CORRESPONDENTS.—Communications have been received from L. Durand, L. F. Allen, Alonzo Sherman, and Reviewer.

ACKNOWLEDGEMENTS.—Transactions of the Norfolk (Mass.) Agricultural Society, for 1849; An Address delivered at the Annual Exhibition of the New York State Agricultural Society, in Syracuse, in September, 1849, by Professor James F. W. Johnston; Address before the Hampshire, Franklin, and Hampden Agricultural Society, at Northampton, (Mass.) October, 1849, by Professor J. P. Norton; Proceedings of the North American Pomological Convention, held at Syracuse, in September, 1849; Constitution and By-Laws of the Kentucky Agricultural and Mechanical Association, adopted in April, 1850.

VALUABLE FARM FOR SALE.—Will be sold by the subscribers at Public Vendue on Friday the 20th day of December next, at one o'clock P. M. on the premises, the valuable farm lately owned by Caleb Smith Green, deceased, situate in Lawrence Township, Mercer County, New Jersey, on the Old York Road, seven miles from Trenton, four from Princeton and near the Lawrenceville Church, English and Classical Schools and Female Seminary. The farm is well watered and contains 193 acres of land, about 30 of which are Wood, the residue meadow and arable land in a high state of cultivation. Upon the premises is a stone Dwelling House containing 4 rooms on a floor, and two tenant houses for workmen, large and convenient barns for storing hay and grain, corn crib, carriage house, wood house, tool house, and other out-buildings, all in good repair, 2 Apple orchards, Pear orchard and other fruit trees. Lime and Manure can be unloaded, and grain and produce shipped on the Delaware and Raritan Canal within 2 miles of the farm.

Persons desiring to view the premises can do so by calling at the dwelling house on the farm. For further information apply to Caleb S. Green, in the city of Trenton.

HENRY W. GREEN, } Ex'trs.
CALEB S. GREEN. }

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SELLING OFF TO CLOSE THE BUSINESS.—Linnean Botanic Garden and Nursery, late of William Prince, deceased. Flushing, Long Island, Near New York. WINTER & Co., Proprietors.

The proprietors have still remaining, a very considerable stock and variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., which they will dispose of for cash, at a reduction of 25 to 50 per cent. and upwards, from the usual prices, according to kind and quantity. Descriptive Catalogues, gratis, on application, post paid.

Apple trees, two to four years old, from \$5 to \$10 per 100. Pear trees, two to four years old, \$25 to \$50 per 100. Cherry trees, two years old, \$12.50 per 100. Orange Quinces, three and a half to five feet, \$12.50 per 100. Black Hamburg and other Foreign Grape Vines, extra strong plants, \$5 per doz. Two-year old seedling Plumb Stocks, \$7 per 1,000.

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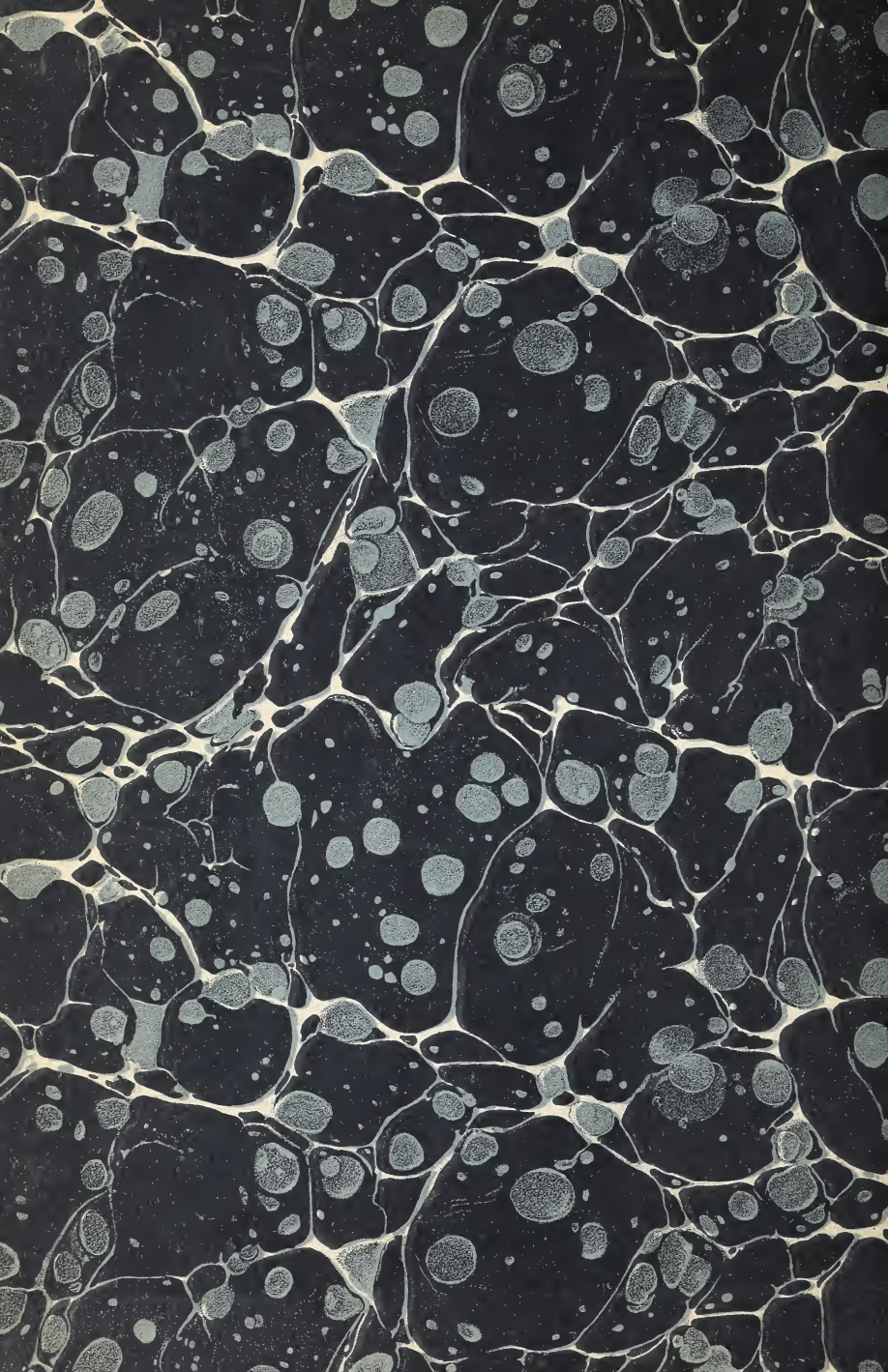
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